2015 CBT-I WORKSHOP

HOUSTON HALL
HALL OF FLAGS

LECTURERS AND DISCUSSANTS

Michael Perlis PhD
Donn Posner PhD
Jason Ellis PhD

SEMINAR INFORMATION

OVERVIEW

Insomnia is widely recognized to be the most common sleep problem and is also a leading complaint in primary care settings. The consequences and morbidity associated with chronic insomnia can be substantial across several domains and can include increased health care utilization, impaired quality of life, increased risk of psychiatric disorders (including depression), increased risk of falls and hip fractures, and worse outcomes for co-morbid disorders.

Cognitive-behavioral treatments for insomnia have been shown to be of equal or greater effectiveness when compared to sedative hypnotic medication. Further, effective treatment of insomnia not only improves sleep quality and daytime functioning, but may also influence the clinical course of such comorbid conditions such as chronic pain and depression.

This conference, hosted by the University of Pennsylvania Behavioral Sleep Medicine Program, is designed to provide physicians, nurses, psychologists and other health care professionals the core elements of cognitive-behavioral treatment for insomnia. The course presents systematic, empirically-validated treatment methods and essential information about the pathophysiology and etiology of insomnia necessary to inform diagnosis and treatment. It is intended to be a first step on the path toward clinical excellence with CBT-I.

WHEN

Thursday, Friday, & Saturday, October 15th - 17th, 2015

WHERE

The University of Pennsylvania, Perelman Quadrangle, Houston Hall: Hall of Flags. The conference will be held on the University of Pennsylvania campus. We hope that conference guests enjoy the lovely autumnal campus life.

Welcome to Philadelphia

Stuff to Consider Doing

Reading Terminal Market
China Town
South Philly Market
The Theater District
The Art Museum
Old City

http://www.discoverphl.com
http://phillyfunguide.com

CBT-I 2015 Cognitive Behavioral Therapy for Insomnia

Thursday-Saturday, October 15th-17th 2015 Houston Hall Penn Campus, Philadelphia, PA

Day One Thursday, October 15th

The first day is dedicated to an orientation to Sleep Medicine, the definition of insomnia and a review of basic etiology and pathophysiology, and a review of treatment approaches.

7:00 AM - 8:00 AM
Registration and Continental Breakfast / Exhibits

8:00 AM - 12:30 PM
Welcome Announcements / Orientation
Sleep 101: Overarching Framework
Signs and Symptoms of Sleep Disorders
Coffee Break / Exhibits
Definition of Insomnia
Basic Etiology & Pathophysiology of Insomnia

12:30 PM - 1:30 PM
Lunch (on your own)

1:30 PM - 4:00 PM
Treating Insomnia Part I
(Review of Pharmacologic & CBT Options)
Coffee Break / Exhibits
Treating Insomnia Part II
(Overview of CBT-I)
Determination of Whether CBT-I is Indicated
(vs. Diagnosis-Based Assessment)

4:00 PM – 5:00 PM
Additional time for above components
Dedicated time for Questions and Answers

Day Two Friday, October 16th

The primary focus of the second day will be the implementation of the core elements of eight-session CBT-I (Sleep Restriction, Stimulus Control, and Sleep Hygiene).

7:00 AM - 8:00 AM
Continental Breakfast / Exhibits

8:00 AM - 12:30 PM
CBT-I Session-by-Session Review Orientation
Session I – Intake Evaluation
Coffee Break / Exhibits
Session II – Treatment Initiation
a) Sleep Restriction Procedures and Rationale
b) Stimulus Control Procedures and Rationale

12:30 PM - 1:30 PM
Lunch (on your own)

1:30 PM - 4:00 PM
Session III – Sleep Hygiene
Sleep Hygiene Procedures and Rationale
Coffee Break and Exhibits
Session IV, VI & VII – Titration and Compliance
Coffee Break and Exhibits

4:00 PM – 5:00 PM
Additional time for above components
Dedicated time for Questions and Answers

Day Three Saturday, October 17th

The primary focus of the third day will be Cognitive Therapy, Relapse prevention, Practice Management, and case examples.

7:00 AM - 8:00 AM
Continental Breakfast / Exhibits

8:00 AM - 12:30 PM
Session V – Cognitive Therapy for Insomnia
Catastrophic Thinking
(Discussion on Alternative Cognitive Treatments)

Session VIII – Relapse Prevention

12:30 PM - 1:30 PM
Lunch (on your own)

1:30 PM - 4:00 PM
Case Examples
General Discussion

4:00 PM – 5:00 PM
Additional time for above components
Dedicated time for Questions and Answers

NOTE:
All 3 days will run from 8-5pm with breaks every 60-90 minutes and a break for lunch. Lectures and activities may significantly vary in their start times given attendee participation and lecturer extemporization and circumlocution.

For more information about the course (and to access feedback from former attendees of the course), please visit
http://www.med.upenn.edu/cbti

About the Speakers

Michael L. Perlis, PhD
Associate Professor, Department of Psychiatry, University of Pennsylvania
Director, Behavioral Sleep Medicine Program, University of Pennsylvania
Associate Professor, School of Nursing, University of Pennsylvania

Course Role: Dr. Perlis is the primary lecturer for the Basic Seminar and co-leads the Advanced Seminar with Drs. Posner and Ellis. The Basic Seminar was developed 10 years ago to provide clinicians from all walks of professional life the education and tools they need to provide CBT-I. Dr. Perlis has been continually updating the course material and course offerings since 2005. Over this course of this time the seminar has been given in venues around the world and has attracted increasingly multidisciplinary audiences. The seminar, according to Dr. Perlis, represents his best effort towards a singular goal: "Make CBT-I widely available". The Advanced Seminar (first given in 2014) represents the effort to address more complex practice issues and to do so in a highly interactive manner where attendees and course faculty learn from one another. His role in the Advanced Seminar, like those of Drs. Posner and Ellis, is as both a lecturer and discussion leader.

Background: Dr. Perlis is internationally known for his work in the area of Behavioral Sleep Medicine (BSM). He is a coauthor of the first text book in this field and he is the senior author of a published CBT-I treatment manual and a larger text summarizing all BSM treatments. The CBT-I manual (*Cognitive Behavioral Treatment of Insomnia: A Session-by-Session Guide* (New York: Springer/Verlag) has been translated into Spanish, Italian, Korean, and Chinese. In addition, his program offers a BSM mini-fellowship, individual and group supervision, and (via CBT-I Educational Products) a video mock case vignette DVD.

Dr. Perlis has published, as an author or co-author, more than 140 articles and chapters on sleep research related topics and he serves on the editorial boards of *Sleep*, the *Journal of Sleep Research*, the journal of *Sleep Medicine Research*, and the journal of *Behavioral Sleep Medicine*. Dr. Perlis has also served as a member, or chair, of several committees and task forces of the Sleep Research Society and the American Academy of Sleep Medicine and he was the assistant chair for the training program of the SRS for five years. Finally, Dr. Perlis was one of the five organizing and founding members of the Society of Behavioral Sleep Medicine (SBSM). He also served as the SBSM's first president (2010-2011).

Dr. Perlis's educational activities also include his service as a mentor to a number of students from many backgrounds, including 29 undergraduates, 6 medical students, 4 residents/psychology interns, 4 graduate students, 9 postdoctoral fellows, and ~15 junior faculty. Most notable among his prior mentees (i.e., those who have gone on to research independent research careers) are Sean Drummond PhD, Kenneth Wright PhD, Michael Smith PhD, Carla Jungquist PhD, Wilfred Pigeon PhD, and Michael Grander, PhD.

Donn Posner, PhD
Clinical/Research Psychologist, Palo Alto Institute for Reaserch

Course Role: Dr Posner will be bringing his 27 years of clinical and supervisory expertise to the course to serve as a discussant on clinical issues raised during the didatic lecture. He will bring a "hands on" perspective that will highlight the nuances of CBT-I that makes the therapy come alive and work for insomnia patients. Over the 3 days he will be highlighting common problems and pifalls for therapists new to CBT-I to avoid. Finally, he will also bring clinical expertise in Anxiety disorders to the course to help with the anxiety issues that frequently present with insomnia

Background: Dr. Donn Posner is a clinical/research psychologist at the Palo Alto VA. Currently he is working on a grant, which hopes to clarify the relative efficacy of each of the components of Cognitive Behavioral Therapy for Insomnia (CBT-I) and for whom each piece works best.

Prior to his role at the VA he spent 25 years serving as the Director of Clinical Behavioral Medicine for Rhode Island and Miriam Hospitals, and was also the Director of Behavioral Sleep Medicine for the Sleep Disorders Center of Lifespan Hospitals. Finally he was a Clinical Associate Professor in the Department of Psychiatry and Human Behavior at the Warren Alpert School of Medicine at Brown University. In his years at Brown he served as the primary supervisor for a rotation of the Behavioral Medicine track of the clinical psychology internship, which focused on the assessment and treatment of Sleep and Anxiety Disorders.

Dr. Posner is one of the authors of *Cognitive Behavioral Treatment of Insomnia: A Session-by-Session Guide* (New York: Springer/Verlag). The book is intended for clinical trainees, and non-insomnia sleep specialists, as well as more experienced clinicians from outside the sleep medicine field, who wish to learn how to provide empirically validated cognitive behavioral treatment for insomnia (CBT-I). He also co-authored *Cognitive Behavioral Therapy for Insomnia in Those with Depression,* which is a clinical guide for clinicians working with insomnia in the context of mood disorders.

Dr. Posner was a consultant for the Veteran's Administration roll out of CBT-I and continues to consult with clinical psychology programs and sleep centers assisting them on how to set up a Behavioral Sleep Medicine program and how to effectively deliver these treatments. He continues to consult around the country helping clinicians develop behavioral sleep medicine programs and to make CBT-I an part of their clinical practices.

Dr. Posner is a member of the American Academy of Sleep Medicine and is one of the first certified behavioral sleep medicine specialists recognized by that group. He is also a founding member of the Society of Behavioral Sleep Medicine and received the society's *Peter Hauri Career Distinguished Achievement Award*.

Jason Ellis, PhD
Professor, Department of Psychology

Northumbria University
Director, Northumbria Centre for Sleep Research

Course Role(s): Dr. Ellis is an internationally prominent sleep researcher and an experienced CBT-I therapist. His role in the Basic Seminar, like Dr. Posner's, is to: 1) Provide the "in-clinic point of view" on the didactic material presented during the seminar, 2) Highlight and flesh out issues that arise during lectures or during the QnA components of the course, and 3) Provide "color commentary." Dr. Ellis, along with Drs. Perlis and Posner, is available throughout the Basic Seminar to provide one-on-one responses to questions and concerns. His role in the Advanced Seminar is as both a lecturer and a discussion leader.

Background: Dr. Ellis is a Professor of Sleep Science and Director of the Northumbria Centre for Sleep Research in the United Kingdom. He splits his time between his basic research interests: the pathophysiology of sleep disorders (Insomnia, Restless Legs Syndrome, and Circadian Rhythm Disorders), the natural history of Insomnia, and his applied work on Cognitive Behavioral Therapy for Insomnia (CBT-I). Within the latter framework he examines the impact of novel adjunct therapies, the influence of social factors on adherence, and the effective delivery of CBT-I in complex cases. He has worked within the National Health Service in the United Kingdom, delivering CBT-I to individuals with a range of physical and psychological conditions and serves on the editorial board of *Behavioral Sleep Medicine*. He is a serious advocate of public engagement and professional education with regard to behavioral sleep medicine and regularly trains CBT-I to clinicians and primary care physicians in the United Kingdom.

Society and/or TXs

AASM	American Academy of Sleep Medicine
SBSM	Society of Behavioral Sleep Medicine
BSM	Behavioral Sleep Medicine
CBT	Cognitive Behavioral Treatment
CBT-I	Cognitive Behavioral Treatment of Insomnia
SRT	Sleep Restriction Therapy
SCT	Stimulus Control Therapy
CPAP	Continuous positive airway pressure
PMR	Progressive Muscle Relaxation
MBTI	Mindfulness-Based Therapy for Insomnia
MBSR	Mindfulness-Based Stress Reduction Program
CT	Cognitive Therapy
ISR	Intensive Sleep Retraining
PI	Paradoxical Intention
EBT	evidence-based psychological treatments

Instruments and Classification Systems

STQ	sleep timing questionnaire
ISI	Insomnia Severity Index
SHI	Sleep Hygiene Index
DBAS	Dysfunctional beliefs and attitudes about sleep
GSES	Glasgow Sleep Effort Scale
SAMI	Sleep Associated Monitoring Index
BZRA	Benzodiazepine Receptor Agonist
ICSD-2	International Classification of Sleep Disorders, 2nd edition
DBAS	Dysfunctional Beliefs about Sleep Scale
SRBQ	Sleep-Related Behaviours Questionnaire
BBTI	Brief Behavioral Treatment of Insomnia
PSQI	Pittsburgh Sleep Quality Index
SSS	Stanford Sleepiness Scale

Sleep and CBT-I related Acronyms

SL	Sleep Latency
WASO	Wake after sleep onset
NWAK	Number of awakenings
TST	Total Sleep Time
SE	Sleep Efficiency
TTB	Time to Bed
TOB	Time out of bed
TIB	Time in Bed
TTOB	Total Time Out of Bed (during the night)
EEG	electroencephalography
SOL	Sleep Onset Latency
T_{min}	core body temperature rhythm minimum

Medical and Psychology Acronyms

Tx	Treatment
Rx	Medication

FAQS AND REFERENCES

1. How Efficacious is CBT-I (i.e., what's the clinical trial data)? - Very.

Morin C.M., et al. (1994) Non-pharmacological interventions for insomnia: a meta-analysis of treatment efficacy. Am. J. Psychiatry 151, 1172-1180.

Murtagh D et al. (1995) Identifying Effective Psychological Treatments for Insomnia - A Meta-analysis. JCCP, 63, 79-89.

2. How Effective is CBT-I (i.e., is there case series data in "real" patients)? - Very.

Lichstein K.L. et al.(2000) Psychological treatment of secondary insomnia. Psychology of Aging 2, 232-240.

Perlis M., et al.(2000) Behavioral treatment of insomnia: A clinical case series study. J. Behav. Med. 23, 149-161.

3. How does CBT-I compare to Pharmacotherapy? – The therapies are comparable.

Morin C.M., et al. (1999) Behavioral and pharmacological therapies for late-life insomnia: a randomized controlled trial JAMA 281, 991-999.

Smith M.T., et al.(2002) Behavioral treatment vs pharmacotherapy for insomnia - a comparative meta-analysis. Am. J. Psychiatry 159, 5-11.

Jacobs G.D. et al. (2004) Cognitive behavior therapy and pharmacotherapy for insomnia - A randomized controlled trial and direct comparison. Arch. Intern. Med. 164, 1888-1896.

Sivertsen B., et al. (2006) Cognitive behavioral therapy vs zopiclone for treatment of chronic primary insomnia in older adults - A randomized controlled trial. Journal of the American Medical Association 295, 2851-2858.

4. Does the NIH have a position on what's the best for the treatment of insomnia ? – Yup.

http://consensus.nih.gov/2005/2005InsomniaSOS026html.htm
This is available on web cast. http://videocast.nih.gov/PastEvents.asp?c=1&s=81

5. Does the AASM have a position on what's the best for the treatment of insomnia? – Yup.

Chesson A.L., et al. (1999) Practice parameters for the non-pharmacologic treatment of chronic insomnia. An American Academy of Sleep Medicine report. Standards of Practice Committee of the American Academy of Sleep Medicine Sleep. 22, 1128-1133.

Chesson A., et al. (2000) Practice parameters for the evaluation of chronic insomnia. An American Academy of Sleep Medicine report. Standards of Practice Committee of the American Academy of Sleep Medicine Sleep. 23, 237-241.

Morgenthaler T. et al. (2006) Practice parameters for the psychological and behavioral treatment of insomnia: An update. An American Academy of Sleep Medicine Report. Sleep. 29, 1415-1419.

Morin C.M., et al. (2006) Psychological and behavioral treatment of insomnia: Update of the recent evidence (1998-2004). Sleep. 29, 1398-1414.

6. How does one know who is an appropriate candidate for CBT-I ?. See for example,
Smith M.T. et al. (2006) Who is a candidate for cognitive-behavioral therapy for insomnia? Health Psychol. 25, 15-19.

7. Are there books me and mine can read on how to do CBT-I. - Yup.

Insomnia: A Clinician's Guide to Assessment and Treatment Eds. Morin & Espie. Plenum Pub Corp. 2000
Cognitive Therapy for Insomnia: A session by session guide. Perlis, Jungquist, Smith & Perlis, Springer-Verlag. 2005.
Overcoming Insomnia: A Cognitive-Behavioral Therapy Approach Therapist Guide, Edinger & Carney 2008.

8. Are there training courses available on CBT-I? - Yup.

General: www.aasmnet.org/SleepEdSeries.aspx
Specific: www.med.upenn.edu/cbti/.

9. Is it possible to arrange for peer supervision for one's first CBT-I cases. Yup.
It is likely that any of the individuals with the CBSM would be willing.
See, http://www.aasmnet.org/BSMSpecialists.aspx

10. Is it possible to be credentialed in CBT-I. Yup.
There is a certification exam. See, http://www.aasmnet.org/BSMExam.aspx

11. How does reimbursement work for CBT-I. Ask:
Ryan Wetzler PhD ➔ rwetzler@kysleepmed.com
Sara Matteson PhD ➔ Sara_Matteson@URMC.Rochester.edu

Posner-Perlis Book Suggestions

[1] Perlis, M.L., and Lichstein, K.L. (Eds.) (2003), Treating Sleep Disorders: Principles and Practice of Behavioral Sleep Medicine. Hoboken, NJ: John Wiley and Sons Inc.

[2] C.M. Morin, C.A. Espie, (2003). Insomnia: A Clinician's Guide to Assessment and Treatment, Springer, Philadelphia, PA.

[3] Perlis, M.L., Jungquist, C.R., Smith, M.T., & Posner, D.A. (2005) Cognitive Behavioral Treatment of Insomnia: A Session-by-Session Guide. Springer/Verlag. New York.

[4] J. Edinger, C.E. Carney. (2008). Overcoming Insomnia: A Cognitive-Behavioral Therapy Approach Therapist Guide, Oxford University Press, New York, NY

[5] Kryger, M.H., Roth, T., & Dement, W.C. (Eds.) (2010), 5th edition. Principles and Practice of Sleep Medicine. W.B. Saunders Co. Philadelphia.

[6] Sateia M. & Buysse D. (2010). Insomnia. Diagnosis and Treatment. 1st edition. Informa Health Care Publishers. London.

[7] Perlis, M.L., Aloia, M.S., & Kuhn B.R. (Eds.) (2011) Behavioral Treatments for Sleep Disorders: A comprehensive primer of behavioral sleep medicine Interventions. Philadelphia PA, Elsevier.

[8] Morin C. and Espie C. (2012). The Oxford Handbook of Sleep and Sleep Disorders (Oxford Library of Psychology). Oxford University Press. London.

Perlis-Posner BSM / CBT-I Reference List

Random Order

[1] E.J. Stepanski, Perlis ML, Behavioral sleep medicine. An emerging subspecialty in health psychology and sleep medicine, J. Psychosom Res. 49 (2000) 343–347.

[2] M. Perlis, M.T. Smith, How can we make CBT-I and other BSM services widely available? Clin. Sleep Med. 4 (1) (2008) 11–13.

[3] W. Pigeon, V.M. Crabtree, M. Scherer, The future of behavioral sleep medicine, Clin. Sleep Med. 3 (1) (2008) 73–79.

[4] Bootzin R.R. Stimulus control treatment for insomnia. Proceedings, 80th Annual Convention, APA 1972;395–396.

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[6] M. Perlis, P.J. Shaw, G. Cano, C.A. Espie, Models of insomnia, in: M. Kryger, T. Roth, W.C. Dement, (Eds.), Principles and Practice of Sleep Medicine, Saunders-Elsevier,Philadelphia, PA, 2010 TBA.

[7] J.D. Edinger, M.H. Bonnet, R.R. Bootzin, et al., Derivation of research diagnostic criteria for insomnia: report of an American Academy of Sleep Medicine Work Group, Sleep 27 (2004) 1567–1596.

[8] C.S. McCrae, K.L. Lichstein, Secondary insomnia: diagnostic challenges and intervention opportunities, Sleep Med. Rev. 5 (2001) 47–61.

[9] K.L. Lichstein, Secondary insomnia: a myth dismissed, Sleep Med. Rev. 10 (2006) 3–5.

[10] T.H. Monk, D.J. Buysse, K.S. Kennedy, et al., Measuring sleep habits without using a diary: the sleep timing questionnaire, Sleep 26 (2003) 208–212.

[11] D.F. Mastin, J. Bryson, R. Corwyn, Assessment of sleep hygiene using the Sleep Hygiene Index, J. Behav. Med. 29 (2006) 223–227.

[12] C.M. Morin, J. Stone, D. Trinkle, et al., Dysfunctional beliefs and attitudes about sleep among older adults with and without insomnia complaints, Psychol. Aging 8 (1993) 463–467.

[13] N.M. Broomfield, C.A. Espie, Toward a valid, reliable measure of sleep effort, J. Sleep Res. (2010).

[14] C.N. Semler, A.G. Harvey, Monitoring for sleep-related threat: a pilot study of the Sleep Associated Monitoring Index (SAMI), Psychosom. Med. 66 (2004) 242–250.

[15] M.R. Irwin, J.C. Cole, P.M. Nicassio, Comparative meta-analysis of behavioral interventions for insomnia and their efficacy in middle-aged adults and in older adults 55俞 years of age, Health Psychol. 25 (2006) 3–14.

[16] C.M. Morin, J.P. Culbert, S.M. Schwartz, Nonpharmacological interventions for insomnia: a meta-analysis of treatment efficacy, Am. J. Psychiatry 151 (1994) 1172–1180.

[17] D.R. Murtagh, K.M. Greenwood, Identifying effective psychological treatments for insomnia: a meta-analysis, J. Consult. Clin. Psychol. 63 (1995) 79–89.

[18] M.T. Smith, M.L. Perlis, A. Park, et al., Behavioral treatment vs pharmacotherapy for insomnia – a comparative meta-analysis, Am. J. Psychiatry 159 (2002) 5–11.

[19] NIH State-of-the-Science Conference Statement on Manifestations and Management of Chronic Insomnia in Adults, 2005.

[20] J.D. Edinger, M.K. Olsen, K.M. Stechuchak, et al., Cognitive behavioral therapy for patients with primary insomnia or insomnia associated predominantly with mixed psychiatric disorders: a randomized clinical trial, Sleep 32 (2009) 499–510.

[21] J. Savard, S. Simard, H. Ivers, C.M. Morin, A randomized study on the efficacy of cognitive-behavioral therapy for insomnia secondary to breast cancer: i – sleep and psychological effects, J. Clin. Oncol. 23 (2005) 6083–6096.

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[23] J.D. Edinger, W.K. Wohlgemuth, A.D. Krystal, J.R. Rice, Behavioral insomnia therapy for fibromyalgia patients – a randomized clinical trial, Arch. Intern. Med. 165 (2005) 2527–2535.

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WORDS OF WISDOM VERSION 3
9-24-15

Perlisisms (MP)

- **Can't stay awake? …you're cured!**
- **Remember the clippers**
- **Look for the check mark**
- **The price of therapy is sleep diaries**
  The price of supervision is graphs
- **Align sleep opportunity with sleep ability**
- **When in treatment, expect things to get worse before they get better**
- **Sleep hygiene is not the ten commandments**
- **Nothing is certain in this world but death, taxes, and stimulus control**
- **In the beginning you're a therapist by the end you're a personal trainer**
- **Doing CBT-I is like dieting, it seldom works when attempted alone**
- **Regarding sleep duration: Just because you can eat everything at the buffet doesn't mean you should. (i.e., just because you can sleep 8, 9, or 10 hours doesn't mean it's good for you).**
- **If insomnia returns, restrict and control (This is really Mark Aloia)**
- **What is insomnia but the gift of more time**
- **Never give insomnia a function (e.g., use it as an alarm clock)**
  Corollary: Making good use of the time when awake, doesn't mean you should bank on it.
- **As the therapist you need to send a message and the message is: "you are in the right place with the right person".**
- **When co-plotting TIB and TST, initially the lines should be divergent, but over successive sessions the lines should be "cuddling".**
- **Before you take action (e.g., based on questionnaire data) make sure the data is actionable. (Review the items of the questions on the instrument and make sure that the responses are what the patient meant to say/convey).**
- **When practicing stimulus control, don't chase sleep back to the bedroom.**
- **Re: prophylaxis, if you have a poor night, don't sleep-in, nap, or go to bed early… If you must (to sustain daytime function), pay the bank back with interest. If you "borrowed" 60 minutes, delay time to bed by 60 plus**
- **Is one awake during the night because they're worrying, or are they worrying because they're awake? Acute insomnia is probably the former and chronic insomnia the latter.**
- **Insomnia has a rhythm, it's usually 3-5 nights for every good night.**
- **If not tonight, then tomorrow night, if not then, then almost certainly the next night**
- **It's a bad thing to be awake when reason sleeps**

Posnerisms (DP)

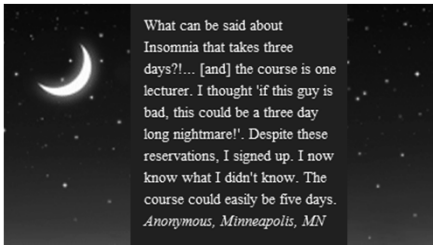
- **Insomnia develops a life of its own**
- **First sleep efficiency then focus on how the patient feels**
- **Sleep drive is like silly putty…roll together and then kneed out**
- **Sleep will come get you when it's ready…that may not be tonight**
- **This torture is not a lifetime sentence**
- **You can under sleep your sleep drive forever but you can't oversleep your drive forever**
- **If you go into the dark tunnel go all the way through to the light and don't turn back. If you think you won't then don't start**
- **Engaging in poor sleep hygiene is like adding rungs to a ladder of vulnerability**
- **Tonight is sacrificed… don't ever fear adding to your sleep bank**
- **Never spend banked sleep except between bed and wake time**
- **Expansion is never smooth... it's two steps up one step back**
- **If you are sitting there 3am awake and wanting to kill me, everything is going beautifully**
- **Your bedroom should be dark enough for me to develop film**
- **Just b/c you can't feel something affecting your sleep doesn't mean it isn't**
- **Insomnia patients are wired but tired**
- **Each insomnia patient is like a snowflake**
- **Conducting CBT-I is like dentistry. The patient may well have a number of medical and/or psychiatric comorbidities, but the dentist's job is to drill the cavity**
- **Not all naps are created equal.**
- **Buddhist expression as applied to the experience of insomnia: Pain is inevitable, suffering is optional"**

Day 1: Introduction

COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA

THANK YOU FOR BEING HERE !

THANK YOU FOR BEING HERE
THANK YOU FOR YOUR INTEREST



LECTURER

Michael L. Perlis PhD
Associate Professor, Psychiatry & Nursing
University of Pennsylvania

DISCUSSANT

Donn Posner PhD
Clinical Associate Professor of Psychiatry and Human Behavior,
Alpert Medical School of Brown University
Psychologist II, Veterans Affairs Palo Alto Health Care System

GUEST DISCUSSANT & LECTURER

Jason Ellis PhD
Professor of Sleep Science
Director of the Northumbria Centre for Sleep Research
Department: Psychology

DISCUSSANT ?

DISCLOSURE

DISCLOSURE

THE FOLLOWING FACULTY HAVE REPORTED THE LISTED RELEVENT FINANCIAL RELATIONSHIPSWITH COMMERCIAL INTERESTS RELATED TO THE CONTENT OF THIS EDUCATIONAL ACTIVITY.

DONN POSNER, PH.D., CBSM

AUTHOR
Springer

BUSINESS AFFILIATIONS
CBT-I EDUCATIONAL PRODUCTS

CONSULTANT WORK
Private Behavioral Sleep Medicine Consultant

PI INITIATED GRANTS
N/A

SOCIETAL AFFILIATIONS
APA, AASM, SBSM, ABCT, and SBM

DISCLOSURE

THE FOLLOWING FACULTY HAVE REPORTED THE LISTED RELEVANT FINANCIAL RELATIONSHIPS WITH COMMERCIAL INTERESTS RELATED TO THE CONTENT OF THIS EDUCATIONAL ACTIVITY

JASON ELLIS (PhD)

PRESENT / PAST CONSULTANT WORK

Slumberdown, Champneys, BBC, Newcastle SHF, Mater Private, Manchester City Football Club, GB Netball Team, Cussons Pearl

PRESENT / PAST PI INITIATED GRANTS

UCB Pharma, Transport for London, Mammoth Technology, Cherry Active, Gateshead PCT, GG&C PCT, Action for ME, ESRC, Wellcome Trust, ME Association, HEIF, Royal Society Edinburgh

SOCIETAL AFFILIATIONS

SRS, HCPC, BPS, BSS, ESRS

ABOUT YOU

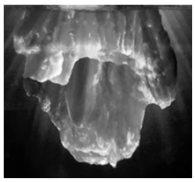
DISCIPLINES ?
SPECIALTIES ?
CBT-I ?

A WORD ABOUT THE CONTENT OF THE COURSE

A WORD ABOUT THE CONTENT OF THE COURSE

DAY 2 =

DAY 1 =



A WORD ABOUT THE CONTENT OF THE COURSE

DAY 3 =

DAY BY DAY

DoD CBT-I Workshop ▸ Day 1

Name

0. OPENER 2014.PPT
1. CONCEPTUAL Framework 2014.PPT
2. SLEEP DXS Signs and symptoms 2014.ppt
3. DEFINITION of insomnia 2014.ppt
4. ETIO & PATHO 2014 .PPT
5. TREATING insomnia 2014.PPT
6. CBT-I Tx components 2014 .PPT

DoD CBT-I Workshop ▸ Day 2 ▸

Name

2.1 SESSION - 1 ASSESSMENT OF INSOMNIA - 2014.PPT
2.2 SESSION - 2 TREATMENT - 2014.PPT
2.3 SESSION - 3 TREATMENT - 2014.PPT
2.4 SESSION - 4 TREATMENT - 2014.PPT
2.6 SESSION - 6&7&8 TREATMENT - 2014.PPT

DoD CBT-I Workshop ▸ Day 3

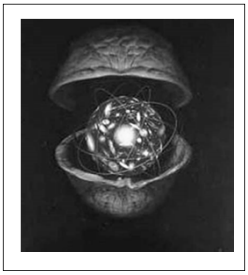
Name

1. SESSION - 5 COGNITIVE THERAPY - 2014.PPT
2. FOUR CBT-I CASES - 2014.PPT
3. QnA - 2014.PPT

THE QUESTION OF THE DAY

WHAT'S
COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA (CBT-I) ?

IN A NUTSHELL



INSOMNIA

TREATMENTS

- **Sleep Restriction** } **THE BT OF CBT-I**
- **Stimulus Control**
- **Sleep Hygiene**
- **Cognitive Therapy**
- **Phototherapy**
- **Relaxation**

INSOMNIA

TREATMENTS

- **Sleep Restriction**
- **Stimulus Control**
- **Sleep Hygiene**
- **Cognitive Therapy**
- **Phototherapy**
- **Relaxation**

WHAT'S THE  **IN CBT-I ?**

SO… HOW TO GET FROM

HERE **HERE**

TO

FIRST THIS SEMINAR

CBT-I 2015 Cognitive Behavioral Therapy for Insomnia

Thursday-Saturday, October 15th-17th 2015 Houston Hall Penn Campus, Philadelphia, PA

Day One Thursday, October 15th

The first day is dedicated to an orientation to Sleep Medicine, the definition of insomnia and a review of basic etiology and pathophysiology, and a review of treatment approaches.

7:00 AM - 8:00 AM
Registration and Continental Breakfast / Exhibits

8:00 AM - 12:30 PM
Welcome Announcements / Orientation
Sleep 101: Overarching Framework
Signs and Symptoms of Sleep Disorders
Coffee Break / Exhibits
Definition of Insomnia
Basic Etiology & Pathophysiology of Insomnia

12:30 PM - 1:30 PM
Lunch (on your own)

1:30 PM - 5:00 PM
Treating Insomnia Part I
(Review of Pharmacologic & CBT Options)
Coffee Break / Exhibits
Treating Insomnia Part II
(Overview of CBT-I)
Determination of Whether CBT-I is Indicated
(vs. Diagnosis-Based Assessment)

5:00 PM - 6:00 PM
Additional time for above components
Dedicated time for Questions and Answers

Day Two Friday, October 16th

The primary focus of the second day will be the implementation of the core elements of eight-session CBT-I (Sleep Restriction, Stimulus Control, and Sleep Hygiene).

7:00 AM - 8:00 AM
Continental Breakfast / Exhibits

8:00 AM - 12:30 PM
CBT-I Session-by-Session Review Orientation
Session I – Intake Evaluation
Coffee Break / Exhibits
Session II – Treatment Initiation
a) Sleep Restriction Procedures and Rationale
b) Stimulus Control Procedures and Rationale

12:30 PM - 1:30 PM
Lunch (on your own)

1:30 PM - 5:00 PM
Session III – Sleep Hygiene
Sleep Hygiene Procedures and Rationale
Coffee Break and Exhibits
Session IV, VI & VII – Titration and Compliance
Coffee Break and Exhibits

5:00 PM - 6:00 PM
Additional time for above components
Dedicated time for Questions and Answers

Day Three Saturday, October 17th

The primary focus of the third day will be Cognitive Therapy, Relapse prevention, Practice Management, and case examples.

7:00 AM - 8:00 AM
Continental Breakfast / Exhibits

8:00 AM - 12:30 PM
Session V – Cognitive Therapy for Insomnia
Catastrophic Thinking
(Discussion on Alternative Cognitive Treatments)

Session VIII – Relapse Prevention

Practice Management & Billing
(Marnie Shanahan, PhD)

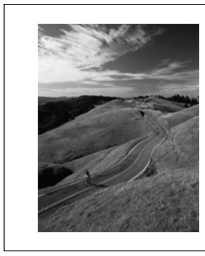
12:30 PM - 1:30 PM
Lunch (on your own)

1:30 PM - 5:00 PM
Case Examples
General Discussion

5:00 PM - 6:00 PM
Additional time for above components
Dedicated time for Questions and Answers

For more information about the course (and to access feedback from former attendees of the course), please visit
http://sleep.med.upenn.edu/cbti

THE SEMINAR
IS INTENDED AS
<u>THE BEGINNING OF THE ROAD</u>



<u>FOLLOW UP STEPS INCLUDE</u>

READ MORE BROADLY

SEE THE MOVIE(S)

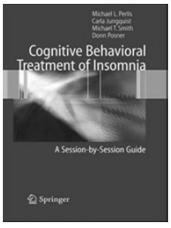
OBSERVE 3-5 CASES

CONDUCT 3-5 CASES WITH SUPERVISION

ENGAGE WITH A PRACTICE CONSULTANT

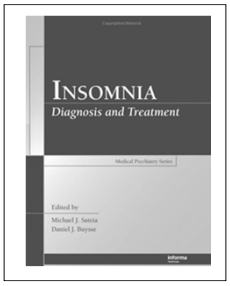
SEEK OUT CE OPPORTUNITIES

READ MORE BROADLY

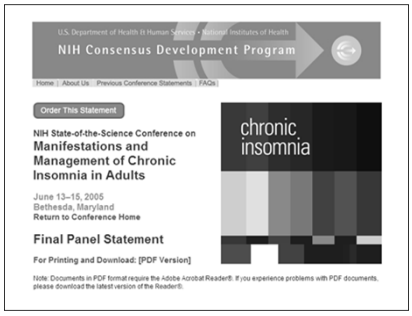


READ MORE BROADLY

READ MORE BROADLY



READ MORE BROADLY



http://consensus.nih.gov/2005/insomniastatement.htm

READ MORE BROADLY

Part I

BSM Treatment Protocols for Insomnia

Introduction

Though Behavioral Sleep Medicine as a field is in its infancy (perhaps more accurately "in gestation") [1–3], the state of the science with respect to insomnia might be best likened to the fourth decade of life: the organism is fully mature but much remains to be learned, said, and done.

With respect to the maturity of the insomnia area, at this point in time there is a well-defined infrastructure that includes (1) a variety of conceptual models, (2) standardized definitions, (3) a general approach to assessment, (4) well-established therapies that are evidence based (with respect to both efficacy and effectiveness), (5) published treatment manuals and courses available for treatment dissemination and implementation, and (6) a new generation of treatments that hold the promise of even better clinical outcomes than those obtained presently. These issues are briefly reviewed below, followed by a short commentary about future directions for the insomnia field.

STATE OF THE SCIENCE

Conceptual Models

This aspect of behavioral sleep medicine is perhaps the most developed, starting with, in the early-era sleep research and sleep medicine (1970s and 1980s), the Borbély Stimulus Control Perspective [4] and the Spielman Three Factor Model [5]. Since the 1990s there has been a proliferation of theoretical perspectives on the etiology and pathophysiology of insomnia that includes ten human models and three animal models [6]. Taken together, these perspectives provide a rich panoramic view of the factors that (1) may serve to "predispose, precipitate, and perpetuate" insomnia as a disorder, (2) may account for the

READ MORE BROADLY

Practice Parameters for the Evaluation of Chronic Insomnia

Practice Parameters for the Psychological and Behavioral Treatment of Insomnia: An Update. An American Academy of Sleep Medicine Report

Practice Parameters for Using Polysomnography to Evaluate Insomnia: An Update

www.aasmnet.org/PracticeParameters.aspx?cid=109

SEE THE MOVIE(S)

http://www.aasmnet.org/store/products.aspx?depid=21

OBSERVE 3-5 CASES

OBSERVE A CASE VIDEO

CONDUCT 3-5 CASES WITH SUPERVISION

JEDI MASTERS

Donn Posner	Brown University
Richard Bootzin	University of Arizona
Art Spielman	CUNY
Ken Lichstein	Univ. of Alabama
Sara Matteson	University of Rochester
Phil Gehrman	University of Pennsylvania
Ryan Wetzler	Private Practice
Jen Martin	UCLA & Private Practice
Todd Arnedt	University of Michigan

OTHER JEDI

www.absm.org/bsmsp

www.behavioralsleep.org/findspecialist.aspx

CONDUCT 3-5 CASES WITH SUPERVISION

http://www.med.upenn.edu/cbti/GroupSupervision.html

Practice and Billing Consultation - PhDs

Ryan G. Wetzler, PsyD, CBSM
Sleep Medicine Specialists
1169 Eastern Parkway, Suite 3357
Louisville, KY 40217

rwetzler@kysleepmed.com

Phone: 502-454-0755 Ext. 161
Fax: 502-459-2156
Website: www.sleepmedicinespecialists.com

Practice and Billing Consultation - NPs

Carla Jungquist NP PhD
University of Rochester
carlajun@buffalo.edu

Ann Rogers RN PhD FAAN
Emory University
ann.e.rogers@emory.edu

Coaching & Consultation

Marnie G. Shanbhag, Ph.D.
505 Park Avenue North, Suite 201
Winter Park, FL 32789

MShanbhag@earthlink.net

Phone: 407-644-5598
Fax: 407-644-0329
Website: www.centralflcounseling.com

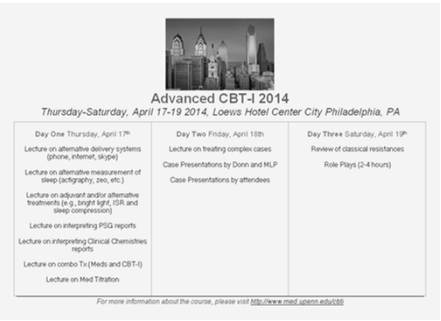
ADVANCED TRAINING

NEW IN 2015

MASTERS IN BEHAVIORAL SLEEP MEDICINE

www.eye.ox.ac.uk/research/msc-sleep-behaviour

ADVANCED TRAINING

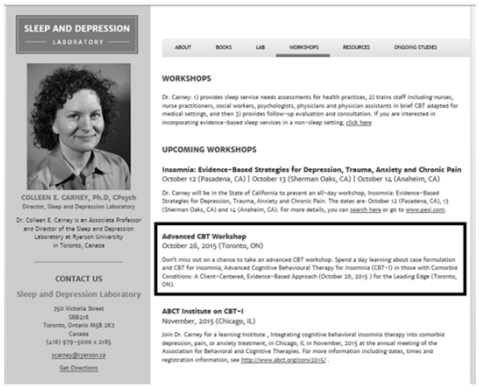


Advanced CBT-I 2014

Thursday-Saturday, April 17-19 2014, Loews Hotel Center City Philadelphia, PA

Day One Thursday, April 17th	Day Two Friday, April 18th	Day Three Saturday, April 19th
Lecture on alternative delivery systems (phone, internet, skype)	Lecture on treating complex cases	Review of classical resistances
Lecture on alternative measurement of sleep (actigraphy, zeo, etc.)	Case Presentations by Donn and MLP	Role Plays (2-4 hours)
Lecture on adjuvant and/or alternative treatments (e.g., bright light, ISR and sleep compression)	Case Presentations by attendees	
Lecture on interpreting PSG reports		
Lecture on interpreting Clinical Chemistries reports		
Lecture on combo Tx (Meds and CBT-I)		
Lecture on Med Titration		

For more information about the course, please visit http://www.med.upenn.edu/cbti



CONTINUING EDUCATION OPPORTUNITIES

Society of Behavioral Sleep Medicine
Behavioral Sleep Medicine Course

Course Overview

Target Audience

Course Objectives

Preliminary Schedule and Topics

www.behavioralsleep.org/Course.aspx

WORKSHOP AND SEMINAR OFFERINGS

CE WORKSHOPS 2009 *Back by Popular Demand!*

117th APA Annual Convention
Toronto, Ontario, Canada August 6-9, 2009

Behavioral Sleep Medicine: Evidence-Based Treatments for Sleep Disorders (Workshop Code: #108)

Thursday, August 6, 2009

Workshop Description

An overwhelming number of patients have sleep problems, which can be disconcerting to clinicians without the training to treat these disorders. An abundance of evidence supports several psychological treatments of sleep disorders such as insomnia, parasomnias, and circadian rhythm disorders. There is a growing need for practitioners with expertise in these techniques. The main goal of this **INTRODUCTORY** workshop is to educate clinicians about how to provide and be reimbursed for, empirically validated treatments for common sleep disorders (e.g., insomnia).

This workshop is designed to help you:

1. Discuss the prevalence of sleep disorders treatable with behavioral and cognitive interventions,
2. Apply the theorized etiology of these disorders in developing a treatment plan,
3. Provide empirically validated treatments for these disorders in adults,
4. Provide empirically validated treatments for these disorders in children,
5. Develop a practice specialty in behavioral sleep medicine through collaboration with local sleep disorders centers,
6. Apply effective billing methods for behavioral sleep medicine services, and
7. Prepare to become certified in behavioral sleep medicine.

Leader: Daniel J. Taylor, PhD, University of North Texas, Denton, TX

CONFERENCE OFFERINGS

ABCT *49th Annual Convention*

ABCT | Chicago | November 12–15, 2015

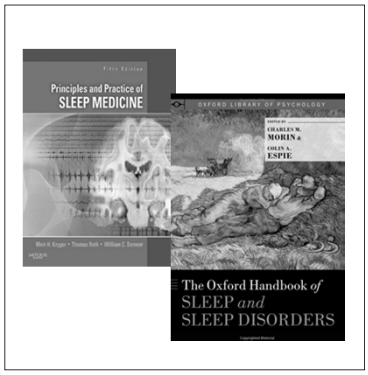
Improving Dissemination by Promoting Empirically Supported Principles of Psychopathology and Change

PROGRAM CHAIR: Brett Deacon, Ph.D.

ABCT | Hilton Chicago Hotel
Thursday, Nov. 12 – Sunday, Nov. 15


FREEWAY
ENTRANCE


Behavioral Treatments for Sleep Disorders
TREATING SLEEP DISORDERS
PRINCIPLES AND PRACTICE OF BEHAVIORAL SLEEP MEDICINE

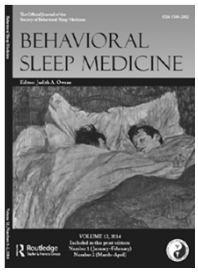

Principles and Practice of SLEEP MEDICINE
OXFORD LIBRARY OF PSYCHOLOGY
The Oxford Handbook of SLEEP and SLEEP DISORDERS


2010 APPLICATION FOR MEMBERSHIP

Biographical Data

Membership Classification

Method of Payment



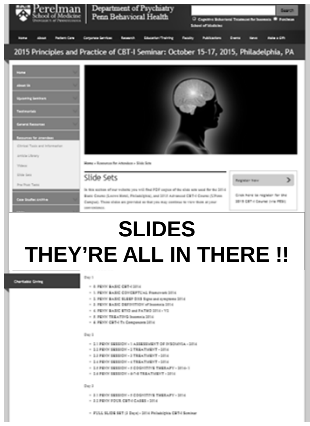
www.behavioralsleep.org/resources/MembershipApplication.pdf

www.behavsleepmed.com

www.aasmnet.org/BSM.aspx

SOME HOUSEKEEPING

WORKSHOP SLIDE BOOK



BOOK - ADDITIONAL CONTENT

FAQS AND REFERENCES

1. How Efficacious is CBT-I (i.e., what's the clinical trial data)? - Very.

Morin C.M., et al. (1994) Non-pharmacological interventions for insomnia: a meta-analysis of treatment efficacy. Am. J. Psychiatry 151, 1172-1180.

Murtagh D et al. (1995) Identifying Effective Psychological Treatments for Insomnia - A Meta-analysis. JCCP, 63, 79-89.

2. How Effective is CBT-I (i.e., is there case series data in "real" patients)? - Very.

Lichstein K.L. et al.(2000) Psychological treatment of secondary insomnia. Psychology of Aging 2, 232-240.

Perlis M., et al.(2000) Behavioral treatment of insomnia: A clinical case series study. J. Behav. Med. 23, 149-161.

3. How does CBT-I compare to Pharmacotherapy? – The therapies are comparable.

Morin C.M., et al. (1999) Behavioral and pharmacological therapies for late-life insomnia: a randomized controlled trial JAMA 281, 991-999.

Smith M.T., et al.(2002) Behavioral treatment vs pharmacotherapy for insomnia - a comparative meta-analysis. Am. J. Psychiatry 159, 5-11.

Jacobs G.D. et al. (2004) Cognitive behavior therapy and pharmacotherapy for insomnia - A randomized controlled trial and direct comparison. Arch. Intern. Med. 164, 1888-1896.

Sivertsen B., et al. (2006) Cognitive behavioral therapy vs zopiclone for treatment of chronic primary insomnia in older adults - A randomized controlled trial. Journal of the American Medical Association 295, 2851-2858.

4. Does the NIH have a position on what's the best for the treatment of insomnia ? – Yup.

http://consensus.nih.gov/2005/2005InsomniaSOS026html.htm
This is available on web cast. http://videocast.nih.gov/PastEvents.asp?c=1&s=81

5. Does the AASM have a position on what's the best for the treatment of insomnia? – Yup.

Chesson A.L., et al. (1999) Practice parameters for the non-pharmacologic treatment of chronic insomnia. An American Academy of Sleep Medicine report. Standards of Practice Committee of the American Academy of Sleep Medicine Sleep. 22, 1128-1133.

Chesson A., et al. (2000) Practice parameters for the evaluation of chronic insomnia. An American Academy of Sleep Medicine report. Standards of Practice Committee of the American Academy of Sleep Medicine Sleep. 23, 237-241.

Morgenthaler T., et al. (2006) Practice parameters for the psychological and behavioral treatment of insomnia: An update. An American Academy of Sleep Medicine Report. Sleep. 29, 1415-1419.

Morin C.M., et al. (2006) Psychological and behavioral treatment of insomnia: Update of the recent evidence (1998-2004). Sleep. 29, 1398-1414.

6. How does one know who is an appropriate candidate for CBT-I ?. See for example.
Smith M.T., et al. (2006) Who is a candidate for cognitive-behavioral therapy for insomnia? Health Psychol. 25, 15-19.

7. Are there books me and mine can read on how to do CBT-I. - Yup.

Insomnia: A Clinician's Guide to Assessment and Treatment Eds. Morin & Espie, Plenum Pub Corp. 2000
Cognitive Therapy for Insomnia: A session by session guide. Perlis, Jungquist, Smith & Perlis, Springer-Verlag, 2005.

8. Are there training courses available on CBT-I? - Yup.

General: http://www.aasmnet.org/SleepEdSeries.aspx
Specific: www.urmc.rochester.edu/cpp/CBT-I

9. Is it possible to arrange for peer supervision for one's first CBT-I cases. Yup.
It is likely that any of the individuals with the CBSM would be willing.
See, http://www.aasmnet.org/BSMSpecialists.aspx

10. Is it possible to be credentialed in CBT-I. Yup.
There is a certification exam. See, http://www.aasmnet.org/BSMExam.aspx

11. How does reimbursement work for CBT-I. Ask:
Donn Posner at Brown → DPosner@LifespanORG
Sara Matteson at UR → Sara_Matteson@URMC.Rochester.edu

BOOK - ADDITIONAL CONTENT

Society and/or TXs

AASM	American Academy of Sleep Medicine
SBSM	Society of Behavioral Sleep Medicine
BSM	Behavioral Sleep Medicine
CBT	Cognitive Behavioral Treatment
CBT-I	Cognitive Behavioral Treatment of Insomnia
SRT	Sleep Restriction Therapy
SCT	Stimulus Control Therapy
CPAP	Continuous positive airway pressure
PMR	Progressive Muscle Relaxation
MBTI	Mindfulness-Based Therapy for Insomnia
MBSR	Mindfulness-Based Stress Reduction Program
CT	Cognitive Therapy
ISR	Intensive Sleep Retraining
PI	Paradoxical Intention
EBT	evidence-based psychological treatments

Instruments and Classification Systems

STQ	sleep timing questionnaire
ISI	Insomnia Severity Index
SHI	Sleep Hygiene Index
DBAS	Dysfunctional beliefs and attitudes about sleep
GSES	Glasgow Sleep Effort Scale
SAMI	Sleep Associated Monitoring Index
BZRA	Benzodiazepine Receptor Agonist
ICSD-2	International Classification of Sleep Disorders, 2nd edition
DBAS	Dysfunctional Beliefs about Sleep Scale
SRBQ	Sleep-Related Behaviours Questionnaire
BBTI	Brief Behavioral Treatment of Insomnia
PSQI	Pittsburgh Sleep Quality Index
SSS	Stanford Sleepiness Scale

Sleep and CBT-I related Acronyms

SL	Sleep Latency
WASO	Wake after sleep onset
NWAK	Number of awakenings
TST	Total Sleep Time
SE	Sleep Efficiency
TTB	Time to Bed
TOB	Time out of bed
TIB	Time in Bed
TTOB	Total Time Out of Bed (during the night)
EEG	electroencephalography
SOL	Sleep Onset Latency
T_{min}	core body temperature rhythm minimum

Medical and Psychology Acronyms

Tx	Treatment
Rx	Medication

BOOK - ADDITIONAL CONTENT

Posner-Perlis Book Suggestions

[1] Perlis, M L., and Lichstein, K L. (Eds.) (2003). Treating Sleep Disorders: Principles and Practice of Behavioral Sleep Medicine. Hoboken, NJ: John Wiley and Sons Inc.

[2] C.M. Morin, C.A. Espie, (2003). Insomnia: A Clinician's Guide to Assessment and Treatment. Springer, Philadelphia, PA.

[3] Perlis, M.L., Jungquist, C.R., Smith, M.T., & Posner, D.A. (2005) Cognitive Behavioral Treatment of Insomnia: A Session-by-Session Guide. Springer-Verlag. New York.

[4] L. Edinger, C.E. Carney. (2008). Overcoming Insomnia: A Cognitive-Behavioral Therapy Approach Therapist Guide, Oxford University Press, New York, NY

[5] Kryger, M.H., Roth, T., & Dement, W.C. (Eds.) (2010), 5th edition. Principles and Practice of Sleep Medicine. W B. Saunders Co. Philadelphia.

[6] Sateia M. & Buysse D. (2010). Insomnia: Diagnosis and Treatment. 1st edition. Informa Health Care Publishers. London.

[7] Perlis, M L., Aloia, M S., & Kuhn B.R. (Eds.) (2011) Behavioral Treatments for Sleep Disorders: A comprehensive primer of behavioral sleep medicine interventions. Philadelphia PA, Elsevier.

[8] Morin C. and Espie C. (2012). The Oxford Handbook of Sleep and Sleep Disorders (Oxford Library of Psychology). Oxford University Press. London.

Perlis-Posner BSM / CBT-I Reference List
Random Order

[1] E.J. Stepanski, Perlis ML, Behavioral sleep medicine. An emerging subspecialty in health psychology and sleep medicine, J. Psychosom Res. 48 (2000) 543–547.

[2] M. Perlis, M.T. Smith, How can we make CBT-I and other BSH services widely available? Clin. Sleep Med. 4 (1) (2008) 11–13.

[3] W. Pigeon, V.M. Crabtree, M. Scharer, The future of behavioral sleep medicine, Clin. Sleep Med. 3 (1) (2008) 73–79.

[4] Bootzin R.R. Stimulus control treatment for insomnia. Proceedings, 80th Annual Convention, APA 1972,395–396.

[5] A Spielman, L. Caruso, A behavioral perspective, Psychiatr. Clin. North Am. (1987).

[6] M. Perlis, R.J. Shaw, G. Cano, C.A. Espie, Models of insomnia, in: M. Kryger, T. Roth, W.C. Dement, (Eds.), Principles and Practice of Sleep Medicine, Saunders-Elsevier,Philadelphia, PA, 2010 784.

[7] J.D. Edinger, M.H. Bonnet, R.R. Bootzin, et al., Derivation of research diagnostic criteria for insomnia: report of an American Academy of Sleep Medicine Work Group, Sleep 27 (2004) 1567–1596.

[8] C.S. McCrae, K.L. Lichstein, Secondary insomnia: diagnostic challenges and intervention opportunities, Sleep Med. Rev. 5 (2001) 47–61.

[9] K.L. Lichstein, Secondary insomnia: a myth dismissed, Sleep Med. Rev. 10 (2006) 3–5.

[10] T.H. Monk, D.J. Buysse, H.S. Kennedy, et al., Measuring sleep habits without using a diary: the sleep timing questionnaire, Sleep 26 (2003) 208–212.

[11] D.F. Haskin, J. Bryson, R. Cervyn, Assessment of sleep hygiene using the Sleep Hygiene Index, J. Behav. Med. 29 (2006) 223–227.

[12] C.M. Morin, J. Stone, D. Trinkle, et al., Dysfunctional beliefs and attitudes about sleep among older adults with and without insomnia complaints, Psychol. aging 8 (1993) 463–467.

BOOK - ADDITIONAL CONTENT

WORDS OF WISDOM VERSION 2

Parlisisms (MP)

- Can't stay awake ?...you're cured !
- Remember the clippers
- Look for the check mark
- The price of therapy is sleep diaries
  The price of supervision is graphs
- Align sleep opportunity with sleep ability
- When in treatment, expect things to get worse before they get better
- Sleep hygiene is not the ten commandments
- Nothing is certain in this world but death, taxes, and stimulus control
- In the beginning you're a therapist by the end you're a personal trainer
- Doing CBT-I is like dieting, it seldom works when attempted alone
- If insomnia returns, restrict and control (This is really Mark Alicia)
- Never give insomnia a function (e.g., use it as an alarm clock)
- What is insomnia but the gift of more time
- It's a bad thing to be awake when reason sleeps
- If not tonight, then tomorrow night, if not then, then almost certainly the next night
- As the therapist you need to send a message and the message is:
  "you are in the right place with the right person".

Posnerisms (DP)

- Insomnia develops a life of it's own
- First sleep efficiency then focus on how you feel
- Sleep drive is like silly putty...roll together and then kneed out
- Sleep will come get you when it's ready...that may not be tonight
- This torture is not a lifetime sentence
- You can under sleep your sleep drive forever but you can't oversleep your drive forever
- If you go into the dark tunnel go all the way through to the light and don't turn back. If you think you won't then don't start
- Engaging in poor sleep hygiene is like adding rungs to a ladder of vulnerability
- Tonight is sacrificed... don't ever fear adding to your sleep bank
- Never spend banked sleep except between bed and wake time
- Expansion is never smooth...it's two steps up one step back
- If you are sitting there 3am awake and wanting to kill me, everything is going beautifully
- Your bedroom should be dark enough for me to develop film
- Just b/c you can't feel something affecting your sleep doesn't mean it isn't

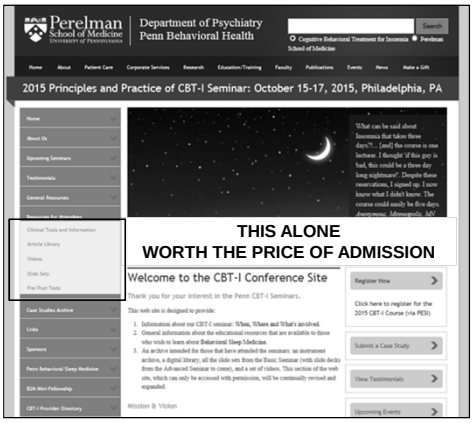
RESPONDING TO QUESTIONS

SCRIBE

ITEMS FOR GIFT BASKET
SPELLING ERRORS

READER

ON THE HOUR



THIS ALONE
WORTH THE PRICE OF ADMISSION

WITHOUT FURTHER ADO
LET'S GET TO WORK

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

Day 1:

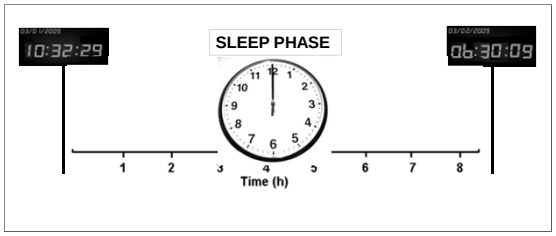
Conceptual Framework

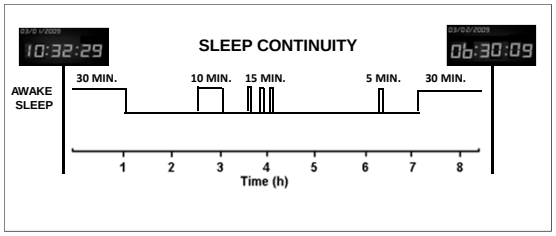
SLEEP 101 : THE BASICS

SLEEP
WHAT IS IT ?

JUST 8 HOURS OF UNCONSCIOUSNESS
OR SOMETHING MORE ?

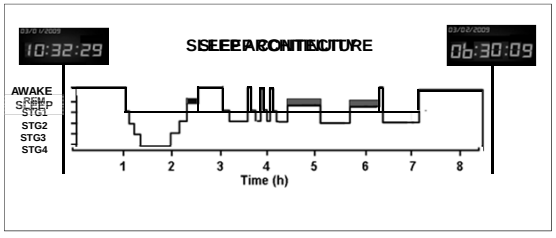
SLEEP PERIOD AND PREFERRED PHASE
SLEEP CONTINUITY
SLEEP ARCHITECTURE





SLEEP CONTINUITY MEASURES

TIME IN BED (TIB)	478 MIN (~ 8hrs)
SLEEP LATENCY (SL)	30 MIN
NUMBER OF AWAKENINGS (NWAK)	6
WAKE AFTER SLEEP ONSET (WASO)	60 MIN
TOTAL SLEEP TIME (TST)	388 MIN (~6.5 hrs)
SLEEP EFFICIENCY (SE%)	82%

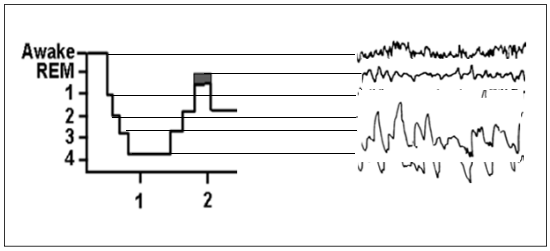


SLEEP ARCHITECTURE MEASURES

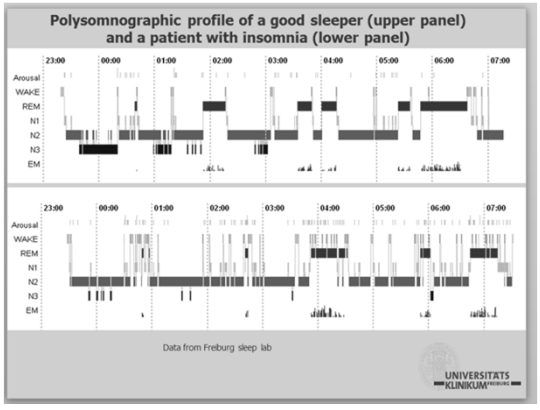
STG1	10%
STG2	60%
STG3	3%
STG4	7%
REM	20%

NOTE: RL AND SWS-L

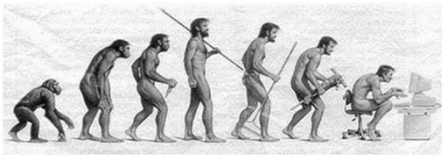
HOW ARE THE STAGES OF SLEEP CLASSIFIED ?



ONE FINAL OBSERVATION APART FROM SLEEP CONTINUITY & SLEEP ARCHITECTURE



WHAT IS THE FUNCTION OF SLEEP ?



ALLAN RECHTSCHAFFEN

“IF SLEEP DOES NOT SERVE AN ABSOLUTELY VITAL FUNCTION,

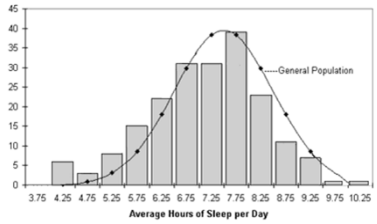
THEN IT IS THE BIGGEST MISTAKE THE EVOLUTIONARY PROCESS EVER MADE.”

ANY IDEAS ABOUT THE FUNCTION(S) OF SLEEP ?

POSSIBLE FUNCTIONS OF SLEEP

- **ENFORCED EMOBILITY**
- **CONSERVATION OF EFFORT & ENERGY**
- **GROWTH & TISSUE RESTORATION**
- **AUGMENTATION OF IMMUNE FUNCTION**
- **MEMORY CONSOLIDATION**
- **MOOD REGULATION**
- **PROMOTION OPTIMAL PERFORMANCE**

HOW MUCH SLEEP DOES ONE NEED ?



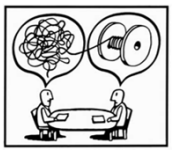
THE POPULATION MODE IS ABOUT 7.5 HOURS

THE PROBLEM

THE PROBLEM WITH USING POPULATION NORMS IS THAT "INDIVIDUALS MAY SEEK MORE SLEEP THAN THEY NEED WHEN IDIOGRAPHIC SLEEP NEEDS ARE DEFINED BY NOMOTHETIC GOALS" (KENNETH LICHSTEIN, 2010)

SAY WHAT ?

TRANSLATION



PROBLEMS ARRISE WHEN THE INDIVIDUAL GOVERNS WHEN AND HOW MUCH THEY SLEEP BASED ON "UNIVERSAL NORMS".

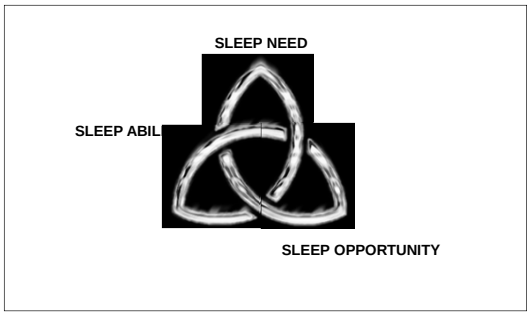
A NOMOTHETIC

HOW MUCH SHOULD ONE SLEEP ?
BY NATURE 5 HOURS, BY CUSTOM 7,
BY LAZINESS 9 AND BY WICKEDNESS 11."

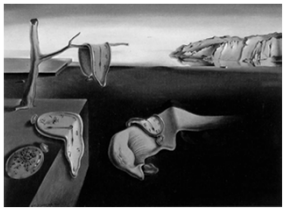
THE PROBLEM

THE PROBLEM IS THAT BOTH TOO LITTLE AND TOO MUCH SLEEP MAY BE DELETERIOUS TO ONE'S HEALTH, FUNCTIONING, AND SENSE OF WELL BEING.

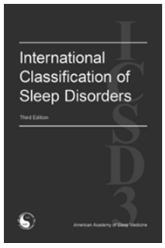
A BALANCE MUST BE STRUCK



WHAT HAPPENS WHEN THINGS ARE OUT OF BALANCE ?



WHEN NEED IS MORE THAN ABILITY,
THIS IS INSOMNIA OR A CRD OR OTHER SLEEP DX

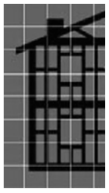


- Insomnia
  - Idiopathic
  - Psychophysiologic
  - Paradoxical
- Narcolepsy
- Sleep Disordered Breathing (SDB)
  - Sleep apnea (Hypopnea, CSA, OSA)
  - Snoring
  - Upper airway resistance syndrome
- Restless leg syndrome / Periodic limb movement disorder
- Hypersomnia
- Circadian rhythm sleep disorders
  - Delayed sleep phase syndrome
  - Advanced sleep phase syndrome
  - Non-24-hour sleep-wake syndrome
  - Jet Lag
- Parasomnias
  - REM sleep Behaviour disorder
  - Sleep terror
  - Sleepwalking
  - Bruxism
  - Bedwetting
  - Sleep talking
  - Sleep sex
  - Exploding head syndrome
- Sleeping sickness
- Fatal Familial Insomnia

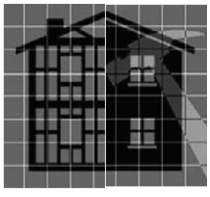
WHEN NEED IS LESS THAN ABILITY,
THIS IS LIKELY THE PHENOMENON OF SHORT SLEEP

WHEN NEED AND ABILITY ARE MORE THAN OPPORTUNITY,
THIS IS INSUFFICIENT SLEEP SYNDROME (SLEEP DEPRIVATION)

SO THAT'S A GENERAL CONCEPTUAL FRAMEWORK



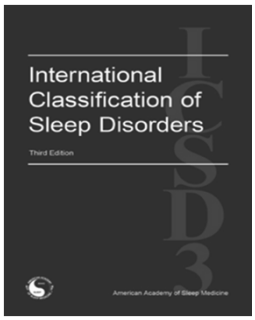
LET'S LOOK AT THINGS WHEN THEY'VE BEEN FULLY FRAMED



Day 1:

Signs & Symptoms of Sleep Disorders

SIGNS AND SYMPTOMS OF SLEEP DISORDERS OTHER THAN INSOMNIA



INTRINSIC SLEEP DISORDERS

Sleep Disordered Breathing (SDB)

- Sleep apnea (Hypopnea, CSA, OSA)
- Snoring
- Upper airway resistance syndrome

Restless legs syndrome / Periodic limb movement disorder

Hypersomnia

Circadian rhythm sleep disorders

- Delayed sleep phase syndrome
- Advanced sleep phase syndrome
- Non-24-hour sleep-wake syndrome
- Jet Lag

Parasomnias

- REM sleep Behaviour disorder
- Sleep terror
- Sleepwalking
- Bruxism
- Bedwetting
- Sleep talking
- Sleep sex
- Exploding head syndrome

Narcolepsy

Sleeping sickness

Fatal Familial Insomnia

Sleep Disordered Breathing (SDB)
Restless Legs Syndrome / Periodic Limb Movement Disorder
Narcolepsy
Delayed Sleep Phase Syndrome
Advanced Sleep Phase Syndrome
Fatal Familial Insomnia

IN THE CONTEXT OF INSOMNIA WHY ASSESS THESE ?

- **THEY MAY ENTIRELY ACCOUNT FOR THE COMPLAINT OF INSOMNIA (MAYBE – MAYBE NOT)**
- **THESE DISORDERS OFTEN CO-OCCUR WITH INSOMNIA**
- **THEY MAY CONTRAINDICATE THE TX OF INSOMNIA**
- **THEY MAY COMPLICATE THE TX OF INSOMNIA**

OUTLINE

I. Introduction
   a. Why
   b. Why not ?
II. Reasons to Care
   a. Really
   b. Says who ?
III. What happens if you don't care ?
   a. We'll dock your salary
   b. Other Bad things
IV. Conclusion
   a. Now that you care
   b. Now that you don't

SLEEP DX COMPLAINTS – THE DUO

CONDITIONS RELATED TO INSOMNIA

DRUGS AND IATROGENIC INSOMNIA

INTRINSIC SLEEP DISORDERS (ABRIDGED)

ASSESSMENT OF SLEEP DISORDERS

SLEEP DISTURBANCE COMPLAINTS

BE SURE TO DISTINGUISH BETWEEN

THE COMPLAINT OF FATIGUE

THE COMPLAINT OF SLEEPINESS

Q: WHAT IS THE DIFFERENCE ?

THE COMPLAINT OF FATIGUE	THE COMPLAINT OF SLEEPINESS
	
PHYSICAL WEARINESS	PHYSICAL WEARINESS
MENTAL WEARINESS	MENTAL WEARINESS
PERFORMANCE CONTINUES OR IS SLOWED	PERFORMANCE IS SLOWED OR STOPS
SLEEP IS <u>UNLIKELY</u>	SLEEP IS <u>LIKELY</u>

THE COMPLAINT OF FATIGUE	THE COMPLAINT OF SLEEPINESS
	
DIMS	DOES
↓	↓
CRDS DSPS ASPS SHIFTWORK ? JET LAG	SDB OSA HYPOPNEA UARS
INSOMNIAS PSYCHOPHYSIOLOGIC PARADOXICAL IDIOPATHIC	PLMs NRS ? NARCOLEPSY IDIOPATHIC HYPERSOMNIA

CONDITIONS RELATED TO INSOMNIA & EDS

MEDICATION SIDE EFFECTS

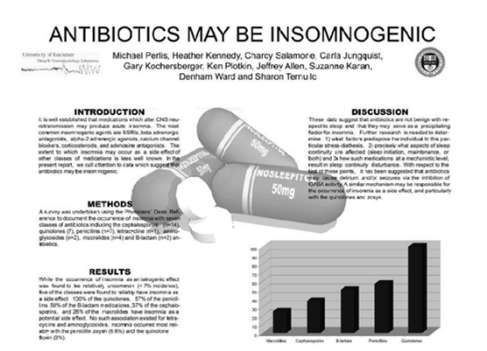
GERD

SUBSTANCE ABUSE
PSYCHIATRIC ILLNESS
HYPERTENSION
ENDOCRINE ABNORMALITIES
RHEUMATOLOGIC DISEASE
RENAL DISEASE
LUNG DISEASE
HEART DISEASE
NEUROLOGICAL DISEASE
INTRINSIC SLEEP DXs

NOTE – THE "CHICKEN OR THE EGG" ISSUE APPLIES TO ALL OF THE AFOREMENTIONED COMORBID CONDITIONS

DRUGS THAT CAN CAUSE SLEEP DISTURBANCE

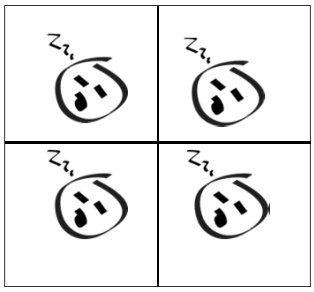
- ALCOHOL & CAFFEINE
- BETA BLOCKERS
- BRONCHODILATORS
- CALCIUM CHANNEL BLOCKERS
- ANTIDEPRESSANTS (1ST VS 2ND GEN)
- ANTIBIOTICS ←



INTRINSIC SLEEP DISORDERS

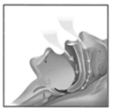
SLEEP APNEA
PLMS
NARCOLEPSY
PHASE DELAY SYNDROME

DISTINGUISHING BETWEEN INTRINSIC DXs



SLEEP APNEA

SIGNS AND SYMPTOMS



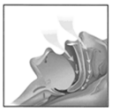
- EXCESSIVE DAYTIME SLEEPINESS
- WITNESSED OR REPORTED SNORING
- WITNESSED APNEAS
- MORNING HEADACHE & DRY MOUTH
- NIGHT SWEATS
- MORBID OBESITY
- RETRONAGTHIA
- NARROWED AIRWAY

THE COMPLAINT OF SLEEPINESS

THE HIGH PROBABILTY OF (AND HISTORY OF)
FALLING ASLEEP
AT INAPPROPRIATE TIMES AND PLACES

SLEEP APNEA

SIGNS AND SYMPTOMS



- EXCESSIVE DAYTIME SLEEPINESS
- WITNESSED OR REPORTED SNORING
- WITNESSED APNEAS
- MORNING HEADACHE & DRY MOUTH
- NIGHT SWEATS
- MORBID OBESITY
- RETRONAGTHIA
- NARROWED AIRWAY

SLEEP DISORDERED BREATHING

A Decision Rule for Diagnostic Testing in Obstructive Sleep Apnea

Willis H. Tsai, John E. Remmers, Rollin Brant, W. Ward Flemons, Jan Davies, and Colin Macarthur

Department of Medicine, Division of Respiratory Medicine; Department of Community Health Sciences; and Department of Anesthesia, University of Calgary, Calgary, AB, Canada

Am J Respir Crit Care Med Vol 167. pp 1427–1432, 2003

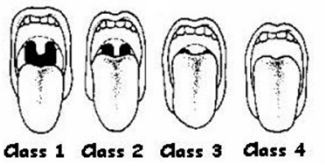
TABLE 2. UNIVARIATE OBSTRUCTIVE SLEEP APNEA PREDICTORS (USING AN RDI CUTOFF VALUE OF 10 HOUR^{-1})

Variable	Odds Ratio	p Value	95% Confidence Interval
Age, years	1.10	0.001	1.03, 1.16
Epworth sleepiness scale	1.03	0.558	0.93, 1.13
Snoring history	12.5	0.023	1.42, 110.6
Choking episodes	2.02	0.169	0.74, 5.49
Witnessed apneas	3.37	0.016	1.25, 9.06
Hypertension	10.3	0.029	1.27, 83.9
Alcohol use	1.20	0.658	0.51, 2.74
Smoker	1.28	0.482	0.66, 2.49
Body mass index, kg/m^2	1.13	0.009	1.03, 1.24
Neck circumference, cm	1.36	0.000	1.15, 1.61
Mandibular advancement, cm	0.69	0.107	0.43, 1.08
Mandibular length, cm	1.83	0.005	1.20, 2.79
Thyro-rami distance, cm	1.59	0.020	1.07, 2.35
Mastoid-medial clavicle, cm	1.25	0.129	0.94, 1.65
TMJ-ramus distance, cm	1.39	0.164	0.88, 2.19
Ramus-ramus distance, cm	0.97	0.891	0.67, 1.42
Thyro-mental, neutral, cm	1.23	0.359	0.79, 1.90
Thyro-mental displacement, cm	0.59	0.059	0.35, 1.02
Sterno-mental, neutral, cm	0.86	0.180	0.68, 1.07
Sterno-mental displacement, cm	0.75	0.041	0.57, 0.99
Retrognathia	0.89	0.706	0.48, 1.65
Cricomental space, cm	0.15	0.000	0.06, 0.38
Tonsillar grade, I–IV	0.85	0.415	0.57, 1.26
Pharyngeal grade, I–IV	1.52	0.046	1.01, 2.30
Samgsoon-Young class, I–IV	1.77	0.018	1.10, 2.86
Palatal elevation	1.41	0.303	0.71, 2.71
Inter–incisor distance, cm	0.86	0.673	0.44, 1.71
Overbite	2.19	0.044	1.02, 4.70

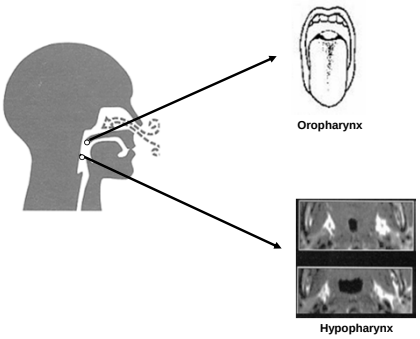
Definition of abbreviation: TMJ = temporal mandibular joint.

Variable	Odds
Snoring history	12.5
Hypertension	10.3
Witnessed apneas	3.37
Overbite 2.19	2.19
Choking episodes	2.02
Mandibular length cm	1.83
Sampsoon-Young	1.77
Thyro–rami distance cm	1.59
Pharyngeal grade I–IV	1.52
TMJ–ramus distance cm	1.39
Neck circumferencecm	1.36
Smoker	1.28
Mastoid–medial clavicle cm	1.25
Thyro–mental neutral cm	1.23
Alcohol use	1.2
Body mass	1.13
Age years	1.1
Epworth sleepiness scale	1.03
Ramus–ramus distance cm	0.97
Inter–incisor distance	0.86
Tonsillar grade I–IV	0.85
Sterno–mental displacement cm	0.75
Retrognathia 0.89	0.706
Mandibular advancement	0.69
Thyro–mental displacement cm	0.59
Palatal	0.303
Sterno–mental neutral cm 0.86	0.18
Cricomental space cm	0.15

MALLAMPATI CLASSIFICATION



UPPER AIRWAY OCCLUSION



PERIODIC LEG MOVEMENTS
SIGNS AND SYMPTOMS

- RESTLESS LEGS SYNDROME (P)
- EXCESSIVE DAYTIME SLEEPINESS
- WITNESSED TWITCHING
- COMPLAINT OF SHALLOW SLEEP
- COMPLAINT OF INSOMNIA

PLMS - WHAT THEY SAY

PLMS - WHAT IT IS

PLMS ON PSG

NARCOLEPSY

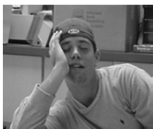
SIGNS AND SYMPTOMS

- EXCESSIVE DAYTIME SLEEPINESS
- HYPNOPOMPIC/HYPNOGOGIC HALLUCINATIONS
- SLEEP ATTACKS (REM SLEEP)
- CATAPLEXY
- SLEEP PARALYSIS
- COMPLAINT OF INSOMNIA

NARCOLEPSY

PHASE DELAY SYNDROME

SIGNS AND SYMPTOMS



- **COMPLAINT OF SLEEP ONSET INSOMNIA**
- **DISCREPANT SLEEP SCHEDULES**
- **NORMAL SLEEP WHEN SCHEDULE IS AD LIBITUM**
- **AGE**

ASSESSMENT

ONCE YOU KNOW WHAT TO LOOK FOR -- HOW DO YOU LOOK FOR IT ?

SLEEP HISTORY
PCP VERSION

B
E
A
R
S

SLEEP HISTORY

PCP VERSION

B **"Do you have difficulty falling asleep?" (BEDTIME)**

E **"Do you ever fall asleep during the day?" (EDS)**

A **"Do you awaken frequently or for long periods (AWAKE)"**

R **"What time do you go to bed? Get up?" (REGULARITY)**

S **"Have you noticed/anyone said you snore?" (SNORE)**

SLEEP HISTORY
QUESTIONAIRE VERSION

ANNOTATED - SDS-CL-25

Subject ID# _____ Date: _____	0 NEVER	1 ONCE A YEAR	2 ONCE A MONTH	3 ONCE A WEEK	4 3 TIMES / WEEK
1. It Takes Me 30 Or More Minutes To Fall Asleep					●
2. I Wake Up For 30 Or More Minutes During The Night				●	
3. I Wake Up 30 Or More Minutes Prior To My Alarm			●		
4. I Prefer To Go To Bed Early (Before 9pm) And Wake Up Early (Before 5am)	●				
5. I Prefer To Go To Bed Late (After 2am) And Wake Up Late (After 10am)	●				
6. I Am Prone To Fall Asleep At Inappropriate Times Or Places		●			
7. I Wake Up With Headaches In The Morning	●				
8. I Wake Up With A Dry Mouth In The Morning (Cotton Mouth)	●				
9. I Snore	●				
10. My Snoring Is So Loud, That My Bedpartner Complains		●			
11. I Wake Up Choking Or Gasping For Air	●				
12. My Bedpartner Has Noticed That I Seem To Stop Breathing	●				
13. I Get Uncomfortable Sensations In My Legs	●				
14. In The Evening My Legs Feel "Restless"	●				
15. I Often Feel That I Have To Get Up And Walk Around	●				
16. I Have Been Told That I Am A Restless Sleeper			●		
17. My Bedpartner Complains That I Move Around A Lot At Night	●				
18. When Excited (E.G., Anger Or Humored) I Feel Physically Weak	●				
19. When I Am Falling Asleep, I Experience Scary Dream Like Images	●				
20. When I Am First Awakening, I Experience Scary Dream Like Images	●				
21. When I Am First Awakening, I Feel Like I Can't Move	●				
22. I Have Nightmares, Particularly In The First ½ Of The Night	●				
23. I Have Nightmares, Particularly In The Latter ½ Of The Night		●			
24. For No Reason, I Awaken Suddenly, Startled, And Feeling Afraid	●				
25. I have been told that I walk, talk, eat, act strange or violent while sleeping	●				

ASSESSMENT

Beyond Signs and Symptoms

SLEEP DIARIES

ACTIGRAPHY

IN-HOME APNEA MONITORS

IN-LAB POLYSOMNOGRAPHY

SDB (OSA / CSA / HYPOPNEA / UARS)

PLMS

NARCOLEPSY

SLEEPINESS (VIA MSLT)

SLEEP EEG ABNORMALITIES
(alpha sleep, nocturnal seizures, absent phasic events)

CARDIAC ABNORMALITIES

QUESTIONS

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

Day 1:

Types and Definitions of Insomnia

THE DEFINITION OF INSOMNIA

I KNOW IT WHEN I SEE IT

I KNOW IT WHEN I HEAR ABOUT IT ?

“Until you've experienced it yourself, it may seem contradictory that a person can be utterly exhausted and yet unable to sleep, but that's precisely [it]…”

www.health.com/health/condition-article/0,,20188079,00.html

DEFINITION - ETYMOLOGY

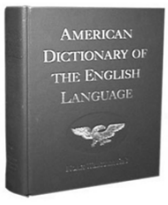
Word Origin & History

insomnia
1623, Anglicized as insomnie, from L. insomnia "want of sleep," from in- "not" + somnus "sleep" (see somnolence). The modern form is from 1758. Insomniac (n.) is from 1908.

Online Etymology Dictionary, © 2001 Douglas Harper
Cite This Source

http://dictionary.reference.com/browse/insomnia

DEFINITION - COMMON DICTIONARY



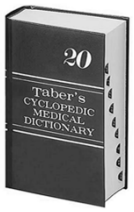
Dictionary

insomnia [(in-som-nee-uh)]

A persistent and prolonged inability to sleep.

http://dictionary.reference.com/browse/insomnia

DEFINITION - MEDICAL DICTIONARY



Medical Dictionary

Main Entry: **in·som·nia**
Pronunciation: in-'säm-nE-&
Function: *noun*
: prolonged and usually abnormal inability to obtain adequate sleepcalled also *agrypnia*

http://dictionary.reference.com/browse/insomnia


A DICTIONARY
OF
PSYCHOLOGICAL MEDICINE
GIVING THE DEFINITION, ETYMOLOGY AND SYNONYME
OF THE TERMS USED IN MEDICAL PSYCHOLOGY
WITH THE
SYMPTOMS, TREATMENT, AND PATHOLOGY OF INSANITY
AND THE
LAW OF LUNACY IN GREAT BRITAIN AND IRELAND
EDITED BY
D. HACK TUKE, M.D., LL.D.
VOL. I.
LONDON
J. & A. CHURCHILL
11 NEW BURLINGTON STREET
1892

A Dictionary of Psychological Medicine
Ed. D. Hack Tuke MD LLD, JA Churchill, London
1892. Vol. 1 p. 61.

AGRYPNIA (ἄγρυπος, wild or restless; ὕπνος, sleep). A term for wakefulness or sleeplessness; one of the premonitory symptoms of various forms of insanity. (Fr. *agrypnie;* Ger. *Schlaflosigkeit*).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AGRYPNIA PERTŒSA (ἄγρυπος; ὕπνος; *pertoesus*, disturbed). Sleeplessness from bodily disquiet, with attention alive to surrounding objects.


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1892. Vol. 1 p. 61.

AGRYPNIA EXCITATA (ἄγρυπος; ὕπνος; *excito*, I stir up). Sleeplessness due to mental excitement with listlessness as to surrounding objects.

A DICTIONARY
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PSYCHOLOGICAL MEDICINE

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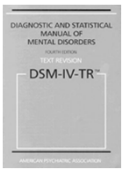
J. & A. CHURCHILL

A Dictionary of Psychological Medicine
Ed. D. Hack Tuke MD LLD, JA Churchill, London
1892. Vol. 1 p. 61.

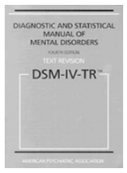
AGRYPNIA SENILIS (ἄγρυπνος; ὕπνος; *senilis*, pertaining to old age). The sleeplessness of old age.

READER

CLASSIC DEFINITION



GENERAL CONCEPTUALIZATIONS



PRIMARY INSOMNIA

A. The predominant complaint is difficulty initiating or maintaining sleep, or nonrestorative sleep, for at least 1 month.

B. The sleep disturbance (or associated daytime fatigue) causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The sleep disturbance does not occur exclusively during the course of Narcolepsy, Breathing-Related Sleep Disorder, Circadian Rhythm Sleep Disorder, or a Parasomnia.

D. The disturbance does not occur exclusively during the course of another mental disorder (e.g., Major Depressive Disorder, Generalized Anxiety Disorder, a delirium).

E. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

PRIMARY INSOMNIA

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"CURRENT" DEFINITIONS

SPECIFIC CONCEPTUALIZATIONS

MORE THAN ONE FORM OF PRIMARY INSOMNIA

IDIOPATHIC INSOMNIA

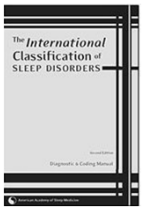
PSYCHOPHYSIOLOGIC INSOMNIA

PARADOXICAL INSOMNIA

INADEQUATE SLEEP HYGIENE INSOMNIA

PHYSIOLOGICAL INSOMNIA

INSOMNIA NOS



IDIOPATHIC INSOMNIA

LIFELONG INSOMNIA WITH A PRESUMED ORGANIC COMPONENT

PSYCHOPHYSIOLOGIC INSOMNIA

A FORM OF INSOMNIA THAT IS CONCEPTUALIZED AS BEING PERPETUATED BY BOTH PSYCHOLOGICAL (BEHAVIORAL AND COGNITIVE) AND PHYSIOLOGICAL FACTORS

PSYCHOPHYSIOLOGIC INSOMNIA

THE FORMAL DEFINITION

THE PATIENT HAS EVIDENCE OF CONDITIONED SLEEP DIFFICULTY AND/OR HEIGHTENED AROUSAL AT SLEEP ONSET AS INDICATED BY

- **EXCESSIVE FOCUS ON, AND ANXIETY ABOUT, SLEEP**
- **SLEEP MAY OCCUR IN NOVEL PLACES, TIMES, ETC. (I.E., IN THE ABSENCE OF CONDITIONED STIMULI)**
- **MENTAL AROUSAL OCCURS AS INTRUSIVE THOUGHTS OR INVOLUNTARY RUMINATION**
- **SOMATIC AROUSAL - FEELING PHYSICALLY "WOUND UP"**

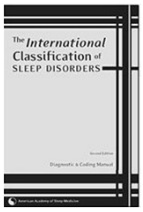
THERE IS EVIDENCE OF "SLEEP EXTENSION" (EXPANDED SLEEP OPP & LOW SE%)

PARADOXICAL INSOMNIA

A FORM OF INSOMNIA FOR WHICH THERE IS A PROFOUND DISCREPANCY BETWEEN THE PATIENT'S EXPERIENCE OF SLEEP CONTINUITY DISTURBANCE AND THE MEASURE OF INSOMNIA SEVERITY BY POLYSOMNOGRAPHY

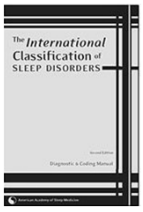
INADEQUATE SLEEP HYGIENE INSOMNIA

A FORM OF INSOMNIA THAT IS CONCEPTUALIZED AS BEING PERPETUATED, IN LARGE MEASURE, BY LIFESTYLE ISSUES



PHYSIOLOGICAL INSOMNIA

A FORM OF INSOMNIA THAT IS CONCEPTUALIZED AS BEING PERPETUATED, IN LARGE MEASURE, BY ORGANIC FACTORS



INSOMNIA NOS

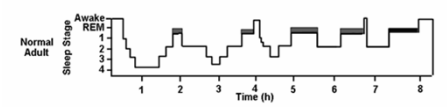
ARE THERE SUBTYPES OF INSOMNIA?

PRIMARY INSOMNIA

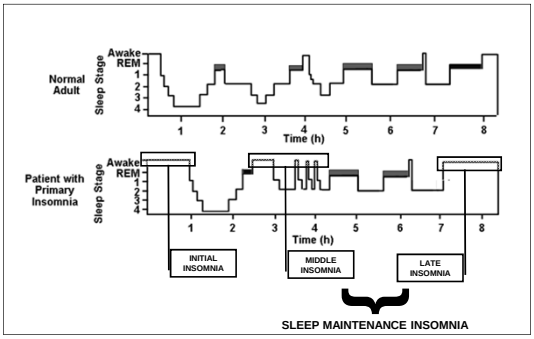
IDIOPATHIC **PARADOXICAL** **PSYCHOPHYS** **INADEQUATE SH** **PHYSIOLOGIC**

INITIAL **MIDDLE** **LATE**

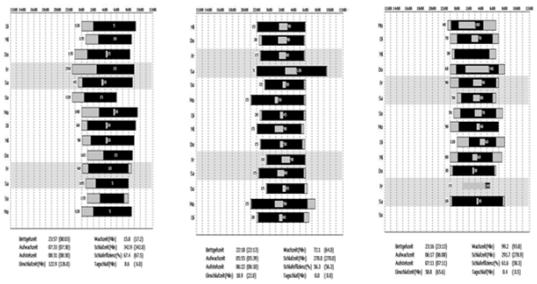
INITIAL - MIDDLE - LATE INSOMNIA



INITIAL - MIDDLE - LATE INSOMNIA

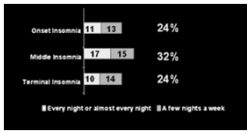


INITIAL - MIDDLE - LATE INSOMNIA



Compliments of Dieter Riemann

VALUE OF SUBTYPING ?

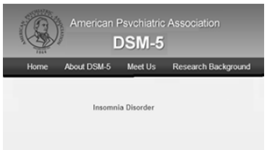


INITIAL IS ANXIETY

MIDDLE IS MEDICAL

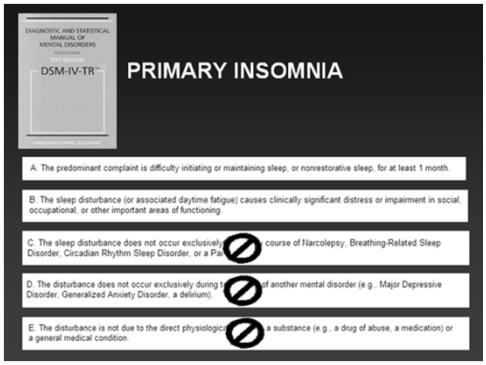
LATE IS DEPRESSION

DSM-5 AND ICSD-3
SOMETHING NEW



Insomnia Disorder

WHAT DO YOU SUSPECT THIS MEANS



THUS
THE CONCEPT OF SECONDARY INSOMNIA HAS BEEN ELIMINATED

INSOMNIA WHEN CHRONIC IS NOT CLASSIFIED AS A SYMPTOM OF OTHER CO-OCCURING ILLNESSES BUT INSTEAD IT IS CLASSIFIED AS A DISORDER

THIS PARADAMATIC SHIFT WAS BROUGHT TO YOU BY

McCrae & Lichstein, 2001

Stepanski & Rybarczyk , 2005

Lichstein, 2006

THEY ARGUED

IT IS ALMOST IMPOSSIBLE TO MAKE A DIFFERENTIAL DIAGNOSIS OF [SECONDARY INSOMNIA [SI])

THE ARGUMENT WAS BASED ON

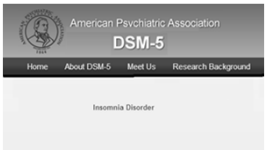
- **CONCEPTUAL GROUNDS**
- **THEORETICAL GROUNDS**
- **BASIS OF TREATMENT OUTCOME DATA**

THE CONCEPTUAL ARGUMENT

ABSOLUTE SECONDARY INSOMINA

PARTIAL SECONDARY INSOMNIA

SPECIOUS SECONDARY INSOMNIA



Insomnia Disorder

A. The predominant complaint is dissatisfaction with sleep quantity or quality made by the patient (or by a caregiver or family in the case of children or elderly).

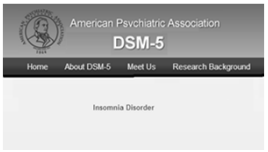
B. Report of one or more of the following symptoms:

C. The sleep complaint is accompanied by significant distress or impairment in daytime functioning as indicated by the report of at least one of the following:

D. The sleep difficulty occurs at least three nights per week.

E. The sleep difficulty is present for at least three months.

F. The sleep difficulty occurs despite adequate age-appropriate circumstances and opportunity for sleep.



B. Report of one or more of the following symptoms:

- **Difficulty initiating sleep; in children this may be manifested as difficulty initiating sleep without caregiver intervention**
- **Difficulty maintaining sleep characterized by frequent awakenings or problems returning to sleep after awakenings (in children this may be manifested as difficulty returning to sleep without caregiver intervention)**
- **Early morning awakening with inability to return to sleep**
- **Non restorative sleep(wait)**
- **Prolonged resistance to going to bed and/or bedtime struggles (children)**

C. The sleep complaint is accompanied by significant distress or impairment in daytime functioning as indicated by the report of at least one of the following:

-Fatigue or low energy

-Daytime sleepiness

-Cognitive impairments (e.g., attention, concentration, memory)

-Mood disturbance (e.g., irritability, dysphoria)

-Behavioral problems (e.g., hyperactivity, impulsivity, aggression)

-Impaired occupational or academic function

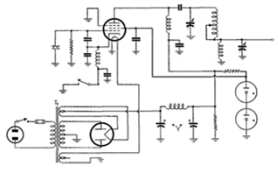
-Impaired interpersonal/social function

-Negative impact on caregiver or family functioning (e.g., fatigue, sleepiness, etc.)

WHY THE EMPHASIS ON DAY TIME FUNCTION ?

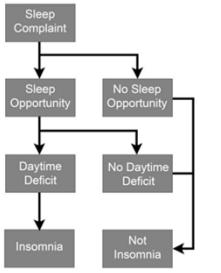
RECAPITULATION

HOW ABOUT SOMETHING MORE SCHEMATIC ?



DEFINITION

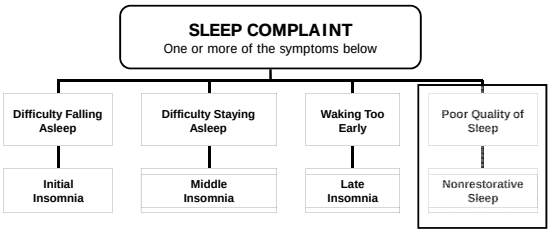
ICSD-II General Criteria for Insomnia



DEFINITION

WHAT IS MEANT BY A SLEEP COMPLAINT ?

DEFINITION



DEFINITION

WHAT IS MEANT BY SLEEP OPPORTUNITY ?

DEFINITION

SLEEP OPPORTUNITY

Nocturnal sleep difficulties occur despite the allocation of adequate time and circumstances (e.g., a quiet and dark bedroom) for sleep.

DEFINITION

SLEEP OPPORTUNITY

Quiet, dark and safe place

Speak to the issue of bedroom and safety

DEFINITION

WHAT ABOUT

SEVERITY

DEFINITION

SEVERITY

DEFINITION

SEVERITY

RULE OF 30

How long is long and corresponds to “complaint” ?
How long is long enough to correspond to consequence ?

A NOTE ABOUT ACUTE INSOMNIA

April, 1923 CALIFORNIA STATE JOURNAL OF MEDICINE 175

THE GENESIS AND TREATMENT OF INSOMNIA *

By HENRY DOUGLAS EATON, M. D., Los Angeles

Insomnia is a popular and much-abused term, used to describe any degree of sleeplessness however mild. The man who has dined too well or the man who is planning a new house frequently describes one or two restless nights as "suffering from insomnia." Such temporary and passing disturbances should not be dignified by the name insomnia, and will not be considered further than to class them as the ordinary average breaks in the sleep habit which fall to the lot of us all. We will confine our present discussion to persistent, long-continued sleeplessness.


ARTICLE IN PRESS

Sleep Medicine Reviews

CLINICAL REVIEW

Acute insomnia: Current conceptualizations and future directions

Jason G. Ellis[a,*], Philip Gehrman[b], Colin A. Espie[c], Dieter Riemann[d], Michael L. Perlis[b]

ARTICLE INFO

SUMMARY

Introduction

The proposed diagnostic for acute insomnia.

	Acute Insomnia
Trigger	1) Any life event or train of life events which results in a significant reduction in QoL from the individuals ideal 2) Distress at current situation
Minimum frequency	3 or more nights per week
Duration	3 days -3 months
Course	3- 14 days: acute 2- 4 weeks: transient 1- 3 months: subchronic
Qualitative severity	mild/moderate/severe as defined by the patient
Quantitative severity	(+30 min SOL; +30 min WASO)

QOL – quality of life.
SOL – sleep onset latency.
WASO – wakefulness after sleep onset.

IMPLICATIONS FOR TX ?

M.M. Ohayon, T. Roth / Journal of Psychiatric Research 37 (2003) 9–15

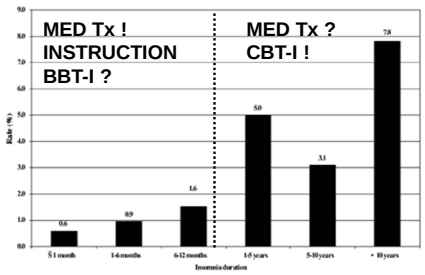


Fig. 1. Prevalence of insomnia by its duration.

INSTRUCTIONS

✓ Think of insomnia as a solution instead of a problem

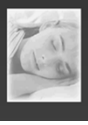
--When an episode of insomnia occurs as a result of life stress, think of the upside: more time to get done what you need to get done.

✓ Take Heart

-- When left to run its course, stress related insomnia is not likely to last more than 2-3days

✓ Take Action

--If the insomnia persists for more than a week - seek assistance: any early intervention may defer the need for "a pound of cure"



OVERALL STRATEGY FOR TREATMENT

In an ideal world, the choice of therapy would be based on the following very simple principles: Pharmacotherapy is indicated in the instances where the condition is acute and the need for immediate symptom reduction is the primary consideration. This indication also carries with it the possibility that short term treatment for acute insomnia may have some prophylactic value against the development of chronic insomnia. That is, if sedative hypnotics are more frequently prescribed for such things as jet lag, insomnia related to acute medical illness or insomnia secondary to transient life stressors (e.g., bereavement), such a strategy may prevent the engagement of behavioral strategies which are thought to perpetuate insomnia and lead to conditioned arousal. Behavioral treatment is indicated in the instances where the condition is chronic and/or in acute cases where 1) pharmacotherapy is contraindicated, e.g. in pediatric or geriatric patients, 2) when there is a potential for drug interactions, or 3) when patients present with a history of substance abuse.

BREAK

DEFINITION - RDC

Day 1:

Models of Insomnia

ETIOLOGY OF INSOMNIA
&
TREATMENT IMPLICATIONS

Michael L. Perlis Ph.D.
Associate Professor, Psychiatry & Nursing
Director, Penn Behavioral Sleep Medicine
University of Pennsylvania

WHO NEEDS A MODEL OF INSOMNIA ?

"The only problem with insomniacs is they don't get enough sleep"

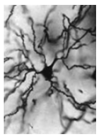
IT'S THAT SIMPLE
AND
IT'S NOT THAT SIMPLE

HOW DOES THIS CONDITION DEVELOP ?
WHAT IS IT ?

WHAT IS THE ETIOLOGY OF INSOMNIA ?

UNKNOWN

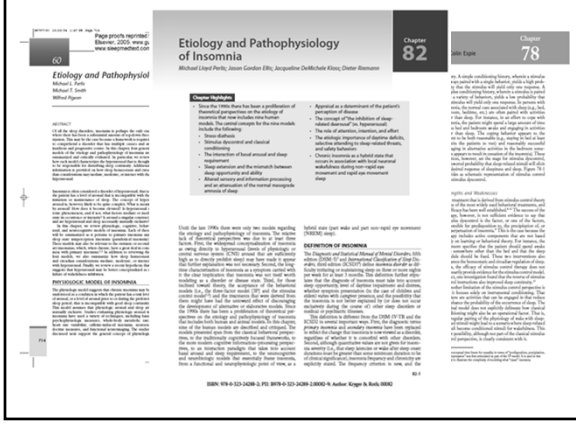
WHAT IS THE PATHOPHYSIOLOGY OF INSOMNIA ?



UNKNOWN

ANY IDEAS ABOUT WHAT INSOMNIA IS AND HOW IT DEVELOPS ?

ACTUALLY THERE ARE MORE THAN A FEW



Chapter 82

Etiology and Pathophysiology of Insomnia

Chapter 78

THE PHYSIOLOGIC PERSPECTIVE

THE PHYSIOLOGIC MODEL

Hyperarousal → Insomnia

WHAT IS HYPERAROUSAL ?

DO PATIENTS WITH INSOMNIA EXHIBIT THIS ?

WHAT IS HYPERAROUSAL ?

A LEVEL OF PHYSIOLOGIC AROUSAL THAT INTERFERES WITH THE INITIATION AND MAINTENANCE OF SLEEP

CLASSICAL MEASURES

- **HEART RATE (HR)**
- **RESPIRATION RATE (RR)**
- **MUSCLE TONUS (EMG)**
- **TEMPERATURE (CBT)**
- **STARTLE RESPONSE (GSR)**

DO INSOMNIA PATIENTS EXHIBIT INCREASED PHYSIOLOGIC AROUSAL ?

	Monroe 1967	Haynes 1974	Haynes 1981	Freedman 1982	Adam 1985	Okpaasilo 1994
Subject issues						
Mean Age (PS and OS)	25/26	18/16	19/13	31/27	51/51	24/34
Sample Size (PS and OS)	19/16	??/??	10/11	12/12	18/16	24/25
Recruitment Source	Univ.	Univ.	Univ	Comm.	PCP	Comm.
Recruitment (indicated Insomnia Research)	Yes	No	??	Yes	No	Yes
Medical Screening	??	??	??	Yes	??	Yes
Psych Screen	??	??	??	Yes	Yes	Yes
Sleep Dx Screen	??	??	??	Yes	??	Yes
Insomnia Complaint (for the PS)	No	??	Yes	Yes	Yes	Yes
PSG study	Yes	No	Yes	Yes	Yes	Yes
PSG Confirmed Insomnia	Yes	No	Yes	Yes	Yes	Yes
Measures -						
Heart rate - During the Day					ns	ns ?
Heart Rate - Prior to Sleep Onset	↑		↑	↑	ns	↑
Heart rate - During Sleep	↑			ns	ns	↑
Respiration Rate - During the Day						
Respiration Rate - Prior to Sleep Onset	↑			?		
Respiration Rate - During Sleep	↑			ns		
Temperature*- During the Day					↑	
Temperature - Prior to Sleep Onset	↑			ns	↑	
Temperature - During Sleep	↑			ns	?	
Muscle Tension - During the Day		↑				
Muscle Tension - Prior to Sleep Onset				↑		
Muscle Tension - During Sleep				ns		
Skin Resistance - During the Day	↑					
Skin Resistance - Prior to Sleep Onset				?		
Skin Resistance - During Sleep				ns		
Peripheral Vasoconstrictivity- During the Day	↑					ns
Peripheral Vasoconstrictivity- Prior to Sleep Onset				ns		
Peripheral Vasoconstrictivity- During Sleep				ns		ns

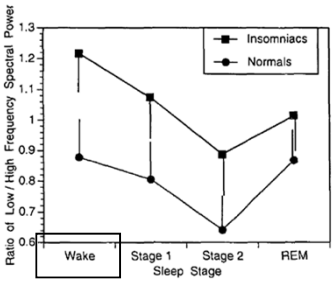
WHAT IS HYPERAROUSAL ?

A LEVEL OF PHYSIOLOGIC AROUSAL THAT INTERFERES WITH THE INITIATION AND MAINTENANCE OF SLEEP

CONTEMPORARY MEASURES

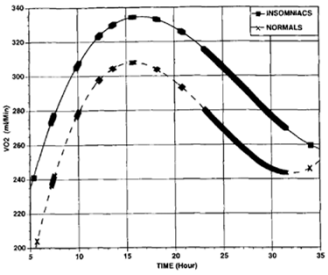
- **HEART RATE VARIABILITY (HRV)**
- **METABOLIC RATE**
- **CORTISOL LEVEL**

HRV



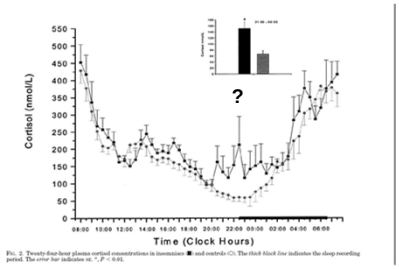
Bonnet et al, Psychosom Med. 1998 Sep-Oct;60(5):610-5.

METABOLIC RATE

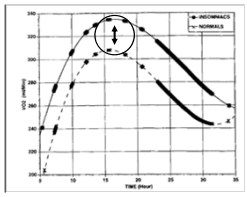


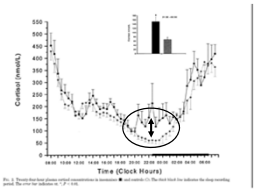
Bonnet et al. Sleep 1995; 18(7):581-588.
Bonnet et al. Psychosom Med 1997; 59(5):533-540.

HPA AXIS ABNORMALITIES



Vgontzas et al. 2001. Journal of Clinical Endocrinology & Metabolism





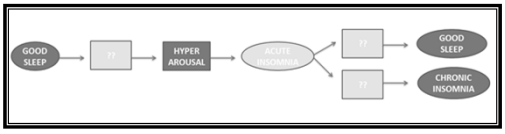
Q: IS THE LEVEL OF AROUSAL ENOUGH TO INTERFERE WITH SLEEP INITIATION OR MAINTENANCE ?

DOES THE AROUSAL LEVEL COMPARE TO THIS ?!

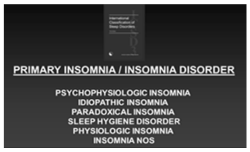
IT'S DOUBTFUL

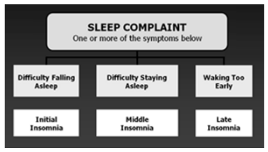
DOES THE MODEL EXPLAIN HOW THE HYPERAROUSAL CONDITION COMES INTO EXISTENCE ?

DOES THE MODEL EXPLAIN HOW ACUTE INSOMNIA BECOMES CHRONIC AND HOW HOW THE CONDITIONS DIFFER ?



CAN THIS MODEL EXPLAIN THE VARIOUS INSOMNIA PHENOTYPES (TYPES AND SUBTYPES)





FOR A GOOD REVIEW OF THE EVIDENCE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CLINICAL REVIEW

The hyperarousal model of insomnia: A review of the concept and its evidence

Dieter Riemann, Kai Spiegelhalder, Bernd Feige, Ulrich Voderholzer, Mathias Berger, Michael Perlis, Christoph Nissen

SUMMARY

Primary insomnia is defined as difficulties in falling asleep, maintaining sleep or non-restorative sleep accompanied by significantly impaired daytime functioning in the absence of a specific physical, mental or substance-related cause. The current review provides substantial support for the concept that hyperarousal processes from the molecular to the higher system level play a key role in the pathophysiology of primary insomnia. Autonomous, neuroendocrine, neuroimmunological, electrophysiological and neuroimaging studies demonstrate increased levels of arousal in primary insomnia during both night and daytime. In the light of neurobiological theories of sleep-wake regulation, primary insomnia may be conceptualized as a final common pathway resulting from the interplay between a genetic vulnerability for an imbalance between arousing and sleep-inducing brain activity, psychosocial/medical stressors and perpetuating mechanisms including dysfunctional sleep-related behavior, learned sleep-preventing associations and other cognitive factors like tendency to worry/ruminate.

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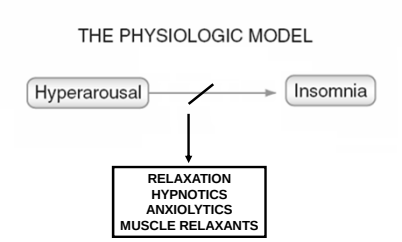
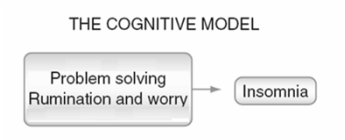
TARGETS FOR TREATMENT

PHYSIOLOGIC MODEL OF INSOMNIA (GENERAL)



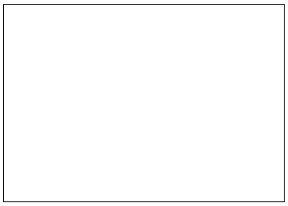
THE COGNITIVE PERSPECTIVE

COGNITIVE MODEL OF INSOMNIA (GENERAL)



INSOMNIA OCCURS AS A RESULT OF WORRY

WORRY – CLASSIC



WORRY – CONTEMPORARY

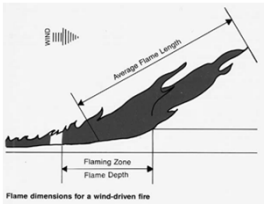
DOES CHRONIC INSOMNIA OCCUR BECAUSE OF

WORRY
RUMINATION
INTRUSIVE THOUGHTS

SELECTIVE ATTENTION
SLEEP-RELATED INTENTION AND EFFORT

MAYBE

OR MAYBE THE COGNITIVE FACTORS ARE "WIND TO THE FLAME"



Flame dimensions for a wind-driven fire

THAT IS, COGNITIVE FACTORS SERVE TO MAKE THE INSOMNIA MORE SEVERE AND MORE CHRONIC

CONSIDER THIS:

IN THE CASE OF <u>CHRONIC INSOMNIA</u>

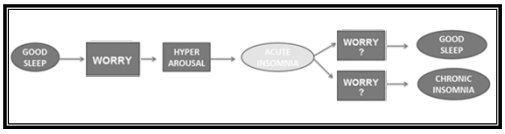
IS IT THE CASE THAT WORRY KEEPS ONE AWAKE

OR

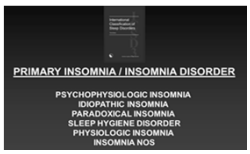
THAT ONE WORRIES BECAUSE ONE IS AWAKE ?

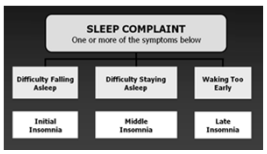
DOES THE MODEL EXPLAIN HOW THE HYPERAROUSAL CONDITION COMES INTO EXISTENCE ?

DOES THE MODEL EXPLAIN HOW ACUTE INSOMNIA BECOMES CHRONIC AND HOW THE CONDITIONS DIFFER ?



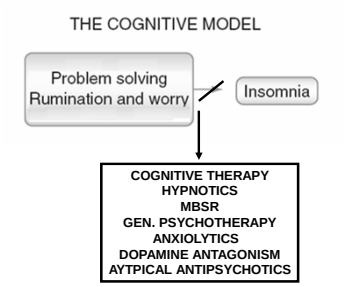
CAN THIS MODEL EXPLAIN THE VARIOUS INSOMNIA PHENOTYPES (TYPES AND SUBTYPES)





TARGETS FOR TREATMENT

COGNITIVE MODEL OF INSOMNIA (GENERAL)



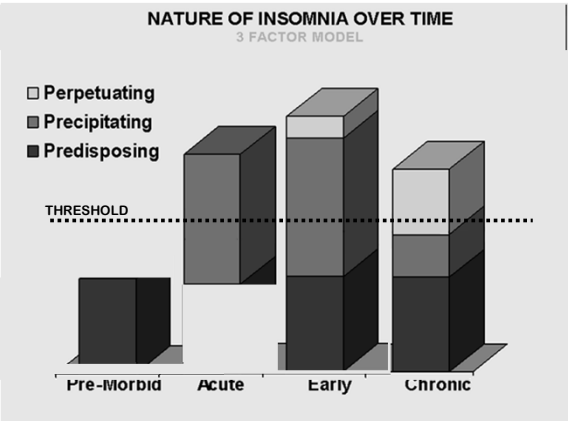
THE BEHAVIORAL PERSPECTIVE

THE SPIELMAN MODEL
(AKA 3 FACTOR OR 3P MODEL)

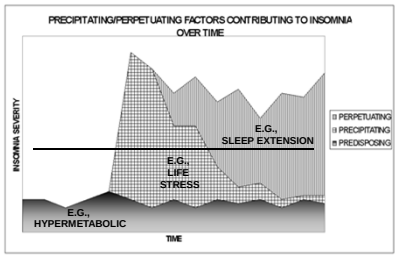
Spielman A. et al. A behavioral perspective on insomnia treatment. Psychiatric Clinics of North Am 1987; 10(4):541-553.

"The best cure for insomnia is to get a lot of sleep"

-- W.C. Fields



SPIELMAN'S NEW MODEL

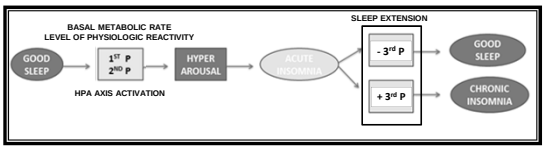


DOES THE MODEL EXPLAIN HOW THE HYPERAROUSAL CONDITION COMES INTO EXISTENCE ?

YES.

DOES THE MODEL EXPLAIN HOW ACUTE INSOMNIA BECOMES CHRONIC AND HOW THE CONDITIONS DIFFER ?

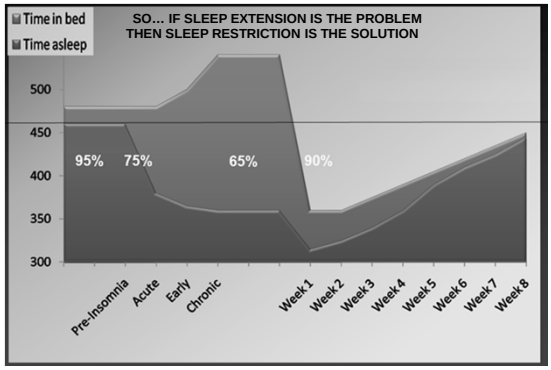
YES.



3rd P – SLEEP EXTENSION

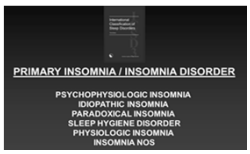
HOW TIME IN BED VARIES WITH INSOMNIA

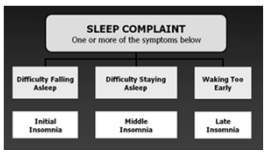
HOW SLEEP OPPORTUNITY IS EXPANDED TO RECOVER LOST SLEEP



Schematic representation by Michael Grandner PhD

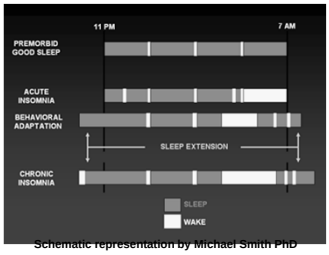
CAN THIS MODEL EXPLAIN THE VARIOUS INSOMNIA PHENOTYPES (TYPES AND SUBTYPES)





PROBABLY NOT

DOES CHRONIC INSOMNIA OCCUR SOLELY IN RELATION TO SLEEP EXTENSION ?



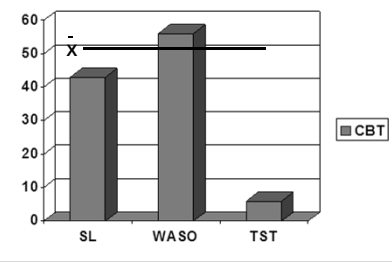
Schematic representation by Michael Smith PhD

PROBABLY NOT

ASSUMING TX (CBT-I) ENTIRELY ELIMINATES THE BEHAVIORS THAT PERPETUATE INSOMNIA

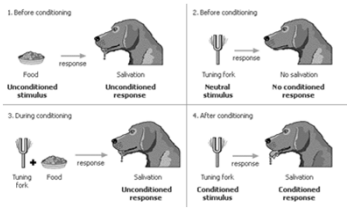
WHY ARE PATIENTS NOT CURED ?

AVERAGE RESPONSE = ~ 50%



Smith et al. American Journal of Psychiatry. 159: 5-11. 2002.

IS THERE SOMETHING MISSING FROM THE BEHAVIORAL MODEL ?



THE BEHAVIORAL MODEL FOCUSES ON INSTRUMENTAL
AND
<u>NOT</u> CLASSICAL CONDITIONING

CLASSICAL CONDITIONING

<u>NORMAL SITUATION</u>
BEDROOM/BEDTIME → SLEEPINESS & SLEEP

<u>ACUTE INSOMNIA SITUATION</u>
BEDROOM/BEDTIME + LIFE STRESS INDUCED SOMATIC AROUSAL → SCD
BEDROOM/BEDTIME + LIFE STRESS INDUCED CORTICAL AROUSAL → SCD

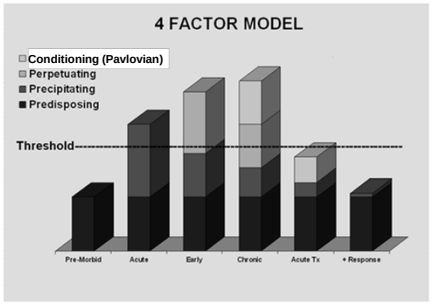
<u>CHRONIC INSOMNIA SITUATION</u>
BEDROOM/BEDTIME ~~+ LIFE STRESS~~ INDUCED SOMATIC AROUSAL → SCD
BEDROOM/BEDTIME ~~+ LIFE STRESS~~ INDUCED CORTICAL AROUSAL → SCD

PATIENT'S TELL YOU ABOUT THIS ALL THE TIME !

SO IF ONE TAKES INTO ACCOUNT CONDITIONING

THE THREE FACTOR MODEL COULD BE REPRESENTED AS A FOUR FACTOR MODEL

THE FOUR FACTOR MODEL

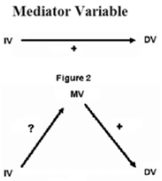


Perlis, Pigeon and Smith; Principles and Practice of Sleep Medicine Chapter 60

DOES CHRONIC INSOMNIA OCCUR SOLELY IN RELATION TO PHYSIOLOGIC, COGNITIVE, AND BEAHVIORAL FACTORS ?

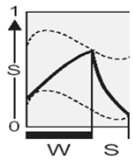
PROBABLY NOT

IT'S LIKELY THAT MODERATORS & MEDIATORS ARE AT PLAY



IV -> independent variable
DV -> dependent (response) variable
MV -> mediator variable

WHAT'S MISSING ?

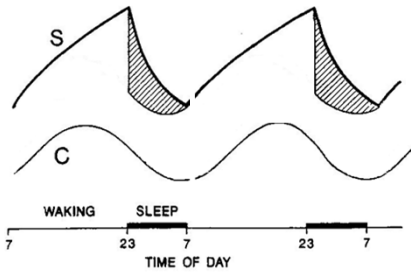


29

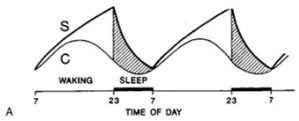
Sleep Homeostasis and Models of Sleep Regulation

Alexander A. Borbely
Peter Achermann

BORBELY'S 2 PROCESS MODEL OF NORMAL SLEEP



WHAT ABOUT INSOMNIA ?



THE TWO PROCESS MODEL HELP ACCOUNT FOR INSOMNIA SUBTYPE

INITIAL AND LATE INSOMNIA MAY OCCUR WITH SUBTLE PHASE SHIFTS OR SLEEPING OUT OF ONE'S PREFERRED SLEEP PHASE

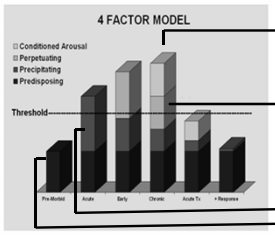
INITIAL, MIDDLE, OR LATE, MAY OCCUR AS SLEEP HOMEOSTASIS DYSREGULATTION (DEPRIME OR EXCESSIVE OPPORTUNITY)

THE TWO PROCESS MODEL HELPS ACCOUNT FOR WHY SLEEP EXTENSION IS A PROBLEM AND WHY SLEEP RESTRICTION WORKS

"IF SLEEP EXTENSION IS THE PROBLEM, SLEEP RESTRICTION IS THE SOLUTION"

TARGETS FOR TREATMENT

FOUR FACTOR MODEL



STIMULUS CONTROL INST
HYPNOTICS
SADs
OREXIN ANTAGONISM

SLEEP RESTRICTION
STIMULUS CONTROL INST

EXERCISE
RELAXATION
GEN. PSYCHOTHERAPY

SO THESE ARE THE BASIC MODELS

FYI

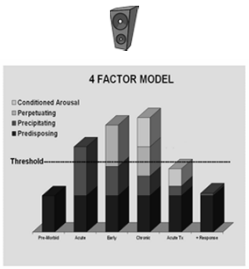
THERE ARE OTHER MODELS WORTH STUDYING DOWN THE ROAD

THE LUNDH MODEL
THE NEUROCOGNITIVE MODEL
THE HARVEY MODEL
THE PSYCHOBIOLOGICAL INHIBITION MODEL
THE NEUROBIOLOGICAL MODEL

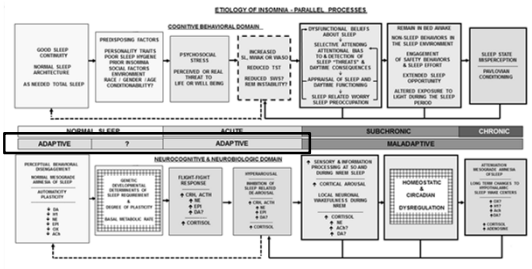
THE DROSOPHILA MODEL
THE RODENT MODEL

THE PARALLEL PROCESS MODEL

FROM A CLINICAL POINT OF VIEW

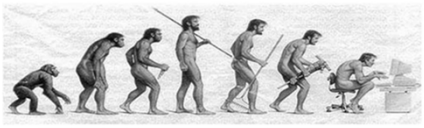


FROM A RESEARCH POINT OF VIEW



"No matter how important sleep may be, it was adaptively deferred when the mountain lion entered the cave."

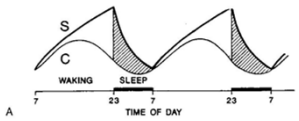
SPIELMAN ET AL. 1991
Thank you Jay !



WE LIVE WITH INSOMNIA TODAY BECAUSE, AT SOME POINT, IN OUR EVOLUTIONARY HISTORY INSOMNIA ALLOWED US TO LIVE'

DEAN HANDLEY
SEPRACOR
CIRCA 2005
DINNER

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu



GIVEN THE TWO PROCESS MODEL

WHAT SHOULD BE THE KEY QUESTIONS OF RELEVANCE FOR TX

1. HOW LONG IS THE INDIVIDUAL AWAKE DURING THE DAY ?
2. DOES THE INDIVIDUAL NAP (AND WHEN) ?
3. WHAT TIME IS THE INDIVIDUAL GOING TO BED ?
4. WHAT TIME IS THE INDIVIDUAL GETTING OUT OF BED ?

Day 2:

Treatment of Insomnia with Medication

INSOMNIA

TREATMENT OPTIONS
TREATMENT EFFECTIVENESS

HOW DO WE TX THIS ?

A HX PERSPECTIVE

PHARMACOTHERAPY

46 THE BRITISH MEDICAL JOURNAL. [July 14, 1877.

QUEEN'S HOSPITAL, BIRMINGHAM.
CASES UNDER THE CARE OF DR. SAWYER.

Insomnia.— is usually successfully treated by full doses of bromides conjoined with tincture of ergot and cod-liver oil. If the insomnia be serious, it must be stopped at once by hypnotics, preferably by opium.

PHARMACOTHERAPY

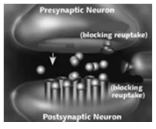
SOME HUMOR RE: PHARMACOTHERAPY
BEFORE WE BEGIN

PAST AND CURRENT THERAPEUTIC APPROACH TO PHARMACOTHERAPY

TREATMENT OPTIONS

CLASSIC THERAPIES

- **Benzodiazepines** **(e.g., temazepam)**
- **Imidazopyridines** **(e.g., zolpidem)**
  Pyrazolopyrimidine **(e.g., zaleplon)**
  Pyrrolopyrazine **(e.g., eszopiclone)**



NEWER THERAPIES

- **Melatonin Agonists** **(e.g., ramelteon)**
- **Doxepin** **(e.g., "Silenoir)**

OFF LABEL

- **Antidepressants** **(e.g., amitriptyline, trazodone)**
- **Antipsychotics** **(e.g., quetiapine)**

IN DEVELOPMENT

- **Orexin antagonists** **(e.g., suvorexant)**
- **BZRAs + CBT-I**
- **Stimulants + CBT-I**

Table 1
Basic pharmacology of medications used to treat insomnia

Agent	Trade name	Class	FDA indication	t_{max} (h)	$t_{1/2}$ (h)	Binding profile						Metabolism
						Benzo binding	Anti-H1	MT1-MT2	Anti-5HT2	Anti-alpha-1	Anti-dopa	Anti-mAch	
Flurazepam	Dalmane	Benzodiazepine	Insomnia	0.5–1.5	40–250	+++							CYP2C19, CYP3A4
Quazepam	Doral	Benzodiazepine	Insomnia	2	20–120	+++							CYP3A4, CYP2C19
Estazolam	Prosom	Benzodiazepine	Insomnia	1.5–2	10–24	+++							CYP3A4
Temazepam	Restoril	Benzodiazepine	Insomnia	1–3	8–20	+++							Glucuronide conjugation
Triazolam	Halcion	Benzodiazepine	Insomnia	1–3	2–5.5	+++							CYP3A4, glucuronide conjugation
Clonazepam	Klonopin	Benzodiazepine	Seizures, anxiety	1–2	35–40	+++							CYP2B, CYP3A4, acetylation
Lorazepam	Ativan	Benzodiazepine	Anxiety	1–3	12–15	+++							Glucuronide conjugation
Alprazolam	Xan												[illegible]S, CYP2C19
Diazepam	Valk												CYP2C19, CYP3A4, [illegible]nide conjugation
Chlordiazepoxide	Libr												CYP2C19, CYP3A4, [illegible]nide conjugation
Zolpidem (MR)	Amb												, CYP1A2, CYP2C9
Zaleplon	Sona												le oxidase, CYP3A4
Eszopiclone	Lun												, CYP2E1
Ramelteon	Roz												, CYP2C, CYP3A4
Amitriptyline	Elav												, CYP2C19, CYP2D6,
Doxepin	Sine												CYP2C19, CYP2D6, CYP2C9, CYP1A2
Trazodone	Desyrel	Chlorophenylpiperazine	MDD	1–2	7–15				+++	+++			CYP3A4, CYP2D6, CYP1A2
Mirtazapine	Remeron	Tetracyclic	MDD	0.25–2	20–40		+++		+++				CYP2D6, CYP1A2, CYP3A4
Quetiapine	Seroquel	Dibenzothiazepine	Schizophrenia mania	1	7		++		+	+++	+		CYP2D6, CYP3A4
Olanzapine	Zyprexa	Thiobenzodiazepine	Schizophrenia mania	5	30		+++		+++	++	++	+++	CYP1A2
Risperidone	Risperdal	Benzisoxazole	Schizophrenia mania	1	3–20		+		+++	+++	++		CYP2D6, CYP3A4
Diphenhydramine	Benadryl	Ethanolamine	Allergy, OTC sleep aid	2–3	5–11		+++					+++	CYP2D6, CYP1A2, CYP2C9, CYP2C19
Doxylamine succinate	Unisom	Ethanolamine	Allergy, OTC sleep aid	1.5–2.5	10–12		+++					+++	CYP2D6, CYP1A2, CYP2C9

MDD = major depressive disorder; $t_{1/2}$ includes the half-lives of the parent compound and major active metabolites; OTC = over-the-counter; information in table from Refs. [8,9,]
Anti-5HT2-Serotonin Type 2 Receptor Antagonist; Anti-alpha-1 - Alpha 1 Adrenergic Antagonist; Anti-Dopa - Dopamine Antagonist; Anti-H1 - Antihistamine; Anti-mAch - Muscarinic Cholinergic Antagonist; Benzo – Benzodiazepine; CYP - Cytochrome P450; ETOH – Alcohol; MR – Modified release; MT1-MT2 - Melatonin Type 1 and Type 2 Receptor Antagonist; $t_{1/2}$ - Half-life; t_{max} - Time to maximum blood level.]

WHILE COMPREHENSIVE, WHAT IS MISSING FROM THIS TABLE ?

Krystal Sleep Medicine Reviews 13 (2009) 265–274

Drugs Indicated for Insomnia

Generic	Brand	$T_{1/2}$ (Hours)	Dose (mg)	Drug Class
Flurazepam	Dalmane	48-120	15-30	BZD
Temazepam	Restoril	8-20	15-30	BZD
Triazolam	Halcion	2-6	0.125-0.25	BZD
Estazolam	Prosom	8-24	1-2	BZD
Quazepam	Doral	48-120	7.5-15	BZD
Zolpidem	Ambien	1.5-2.4	5-10	non-BZD
Zaleplon	Sonata	1	5-20	non-BZD
Eszopiclone	Lunesta	5-7	1-3	non-BZD
Zolpidem Ext. Rel.	Ambien CR	1.5-2.4*	6.25-12.5	non-BZD
Ramelteon	Rozerem	1.5-5	8	MT agonist

Compiled by Dan Buysse

BASED ON ½ LIFE WHICH MEDICATION MIGHT BE BEST FOR <u>INITIAL INSOMNIA</u>

Generic	Brand	$T_{1/2}$ (Hours)	Dose (mg)	Drug Class
Flurazepam	Dalmane	48-120	15-30	BZD
Temazepam	Restoril	8-20	15-30	BZD
Triazolam	Halcion	2-6	0.125-0.25	BZD
Estazolam	Prosom	8-24	1-2	BZD
Quazepam	Doral	48-120	7.5-15	BZD
Zolpidem	Ambien	1.5-2.4	5-10	non-BZD
Zaleplon	Sonata	1	5-20	non-BZD
Eszopiclone	Lunesta	5-7	1-3	non-BZD
Zolpidem Ext. Rel.	Ambien CR	1.5-2.4*	6.25-12.5	non-BZD
Ramelteon	Rozerem	1.5-5	8	MT agonist

Compiled by Dan Buysse

BASED ON ½ LIFE WHICH MEDICATION MIGHT BE BEST FOR <u>MIDDLE INSOMNIA</u>

Generic	Brand	$T_{1/2}$ (Hours)	Dose (mg)	Drug Class
Flurazepam	Dalmane	48-120	15-30	BZD
Temazepam	Restoril	8-20	15-30	BZD
Triazolam	Halcion	2-6	0.125-0.25	BZD
Estazolam	Prosom	8-24	1-2	BZD
Quazepam	Doral	48-120	7.5-15	BZD
Zolpidem	Ambien	1.5-2.4	5-10	non-BZD
Zaleplon	Sonata	1	5-20	non-BZD
Eszopiclone	Lunesta	5-7	1-3	non-BZD
Zolpidem Ext. Rel.	Ambien CR	1.5-2.4*	6.25-12.5	non-BZD
Ramelteon	Rozerem	1.5-5	8	MT agonist

Compiled by Dan Buysse

BASED ON ½ LIFE WHICH MEDICATION MIGHT BE BEST FOR <u>LATE INSOMNIA</u>

Generic	Brand	$T_{1/2}$ (Hours)	Dose (mg)	Drug Class
Flurazepam	Dalmane	48-120	15-30	BZD
Temazepam	Restoril	8-20	15-30	BZD
Triazolam	Halcion	2-6	0.125-0.25	BZD
Estazolam	Prosom	8-24	1-2	BZD
Quazepam	Doral	48-120	7.5-15	BZD
Zolpidem	Ambien	1.5-2.4	5-10	non-BZD
Zaleplon	Sonata	1	5-20	non-BZD
Eszopiclone	Lunesta	5-7	1-3	non-BZD
Zolpidem Ext. Rel.	Ambien CR	1.5-2.4*	6.25-12.5	non-BZD
Ramelteon	Rozerem	1.5-5	8	MT agonist

Compiled by Dan Buysse

PLUSES & MINUSES FOR EACH TREATMENT MODALITY

<u>Benzodiazepines (e.g., Temazepam)</u>

+ Good short term efficacy
+ Low interaction profile
+ High LD
+ Minor side effects (depending on 1/2 life)

- Not recommended for long term use
- Not curative (gains are lost when Tx is d/c)
- Rebound insomnia
- Suppresses SWS or REM
- Drug dependence (?) ASIDE: ANXIETY AND/OR PAIN

PLUSES & MINUSES FOR EACH TREATMENT MODALITY

Imidazopyridines / Non-benzodiazepines (e.g., Zolpidem, Zaleplon, Zopiclone)

+ Good "short" term efficacy
+ May be used safely up to 6 months (FDA SI REMOVED)
+ Low interaction profile
+ High LD
+ Few side effects
+ Doesn't suppress SWS or REM
+ Does not result in rebound insomnia

- Not curative (gains are lost when Tx is d/c)
- Parasomnogenesis (pegged to zolpidem)

PLUSES & MINUSES FOR EACH TREATMENT MODALITY

Melatonin Agonists (M1 & M2 receptor agonists)

Ramelteon (Rozerem)

PLUSES & MINUSES FOR EACH TREATMENT MODALITY

Melatonin Agonists (M1 receptor agonists)

+ "Established" efficacy
+ May be used safely for extended intervals
+ Low interaction profile (except fluvaxamine)
+ High LD
+ Few side effects (possible exception: gonadotrophic hormones)
+ Doesn't suppress SWS or REM
+ Does not result in rebound insomnia

- Not curative (gains are lost when Tx is d/c)

(SUB-OB ISSUE)

	PRE-POST Δ SUB	PRE-POST Δ OB	Δ
SL	10	15	-5
NWAK	1	2	-1
WASO	5	15	-10
TST	15	25	-10

PLUS & MINUSES FOR EACH TREATMENT MODALITY

Low Dose Tricyclics – Doxepin (not silenior)

+ Good short term efficacy (WASO only)
+ Good durability (3 months)
+ No appreciable effects on Sleep Architecture
+ Minor side effects at hypnotic doses (?)
+ Data exists for long term administration in MDD
+ Low abuse potential

- Interacts with other meds (?)
- Possible cardiovascular effects (?)
- Anticholinergic side effects (?)
- Not curative (gains are lost when Tx is d/c)

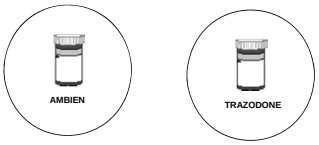
PLUS & MINUSES FOR EACH TREATMENT MODALITY

Antidepressants (e.g., Amitriptyline, Trazodone)

+ Good short term efficacy (?)
+ Minor side effects at hypnotic doses (?)
+ Data exists for long term administration in MDD
+ Low abuse potential

- Interact with other meds (?)
- Possible cardiac toxicity (?)
- Anticholinergic side effects (?)
- PLMs as an iatrogenic effect (more so w/ amitriptyline)
- Off label prescription for Primary Insomnia
- Not curative (gains are lost when Tx is d/c)
- Rebound insomnia (?)
-suppresses REM (not so much trazodone)
- Priapism

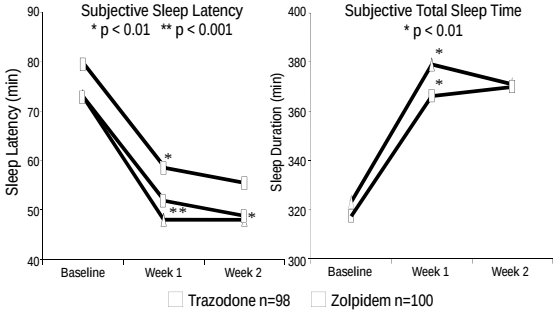
HOW DO HYPNOTICS COMPARE WITH SEDATING ANTIDEPRESSANTS ?



I would have guessed …

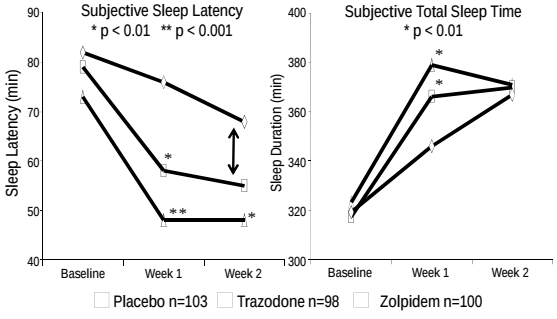
TRAZODONE AND ZOLPIDEM TREATMENT OF PRIMARY INSOMNIA

Walsh, *Hum Psychopharmacol*, 1998



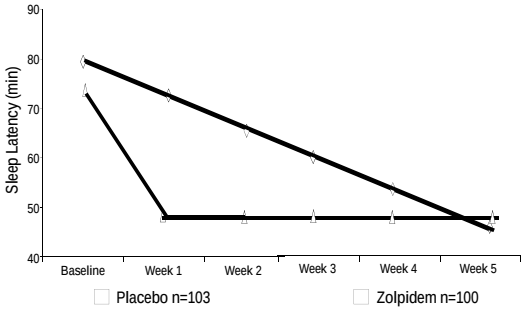
TRAZODONE AND ZOLPIDEM TREATMENT OF PRIMARY INSOMNIA

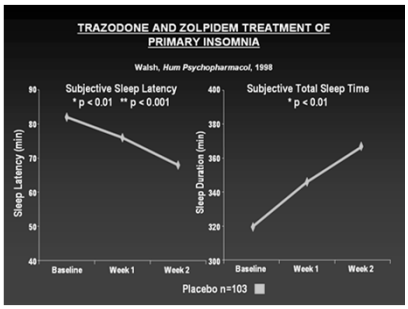
Walsh, *Hum Psychopharmacol*, 1998



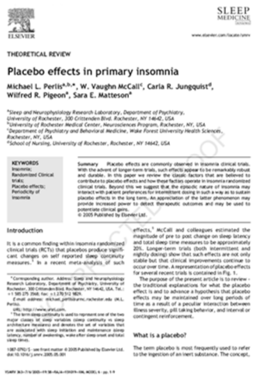
TRAZODONE AND ZOLPIDEM TREATMENT OF PRIMARY INSOMNIA

Walsh, *Hum Psychopharmacol*, 1998





"What's up with placebos and insomnia ?!!"



SLEEP MEDICINE

www.elsevier.com/locate/smrv

THEORETICAL REVIEW

Placebo effects in primary insomnia

Michael L. Perlis[a,b,*], W. Vaughn McCall[c], Carla R. Jungquist[d], Wilfred R. Pigeon[a], Sara E. Matteson[a]

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[b] University of Rochester Medical Center, Neurosciences Program, Rochester, NY, USA
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KEYWORDS
Insomnia;
Randomized Clinical trials;
Placebo effects;
Periodicity of insomnia

Summary Placebo effects are commonly observed in insomnia clinical trials. With the advent of longer-term trials, such effects appear to be remarkably robust and durable. In this paper we review the classic factors that are believed to contribute to placebo effects and how these factors operate in insomnia randomized clinical trials. Beyond this we suggest that the episodic nature of insomnia may interact with patient preferences for intermittent dosing in such a way as to sustain placebo effects in the long term. An appreciation of the latter phenomenon may provide increased power to detect therapeutic outcomes and may be used to potentiate clinical gains.

Introduction

It is a common finding within insomnia randomized clinical trials (RCTs) that placebos produce significant changes on self reported sleep continuity measures.[1] In a recent meta-analysis of such effects,[1] McCall and colleagues estimated the magnitude of pre to post change on sleep latency and total sleep time measures to be approximately 20%. Longer-term trials (both intermittent and nightly dosing) show that such effects are not only stable but that clinical improvements continue to occur over time. A representation of placebo effects for several recent trials is contained in Fig. 1.

The purpose of the present article is to review - the traditional explanations for what the placebo effect is and to advance a hypothesis that placebo effects may be maintained over long periods of time as a result of a peculiar interaction between illness severity, pill taking behavior, and interval or contingent reinforcement.

What is a placebo?

The term placebo is most frequently used to refer to the ingestion of an inert substance. The concept,

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URL: http://www.ursrl.com.

[1] The term sleep continuity is used to represent one of the two major classes of sleep variables (sleep continuity vs sleep architecture measures) and denotes the set of variables that are associated with sleep initiation and maintenance (sleep latency, number of awakenings, wake after sleep onset and total sleep time).

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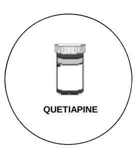
doi:10.1016/j.smrv.2005.05.001

WHAT ABOUT ANTIPSYCHOTICS ?

WHAT ABOUT QUETIAPINE ?



Psychopharmacology (2008) 196:337–338
DOI 10.1007/s00213-007-0968-8

LETTER TO THE EDITORS

Quetiapine in primary insomnia: a pilot study

Michael H. Wiegand · Florentina Landry · Torsten Brückner · Corina Pohl · Zdenko Veselý · Thomas Jahn

Received: 21 September 2007 / Accepted: 26 September 2007 / Published online: 6 October 2007

In the treatment of primary insomnia, benzodiazepines and non-benzodiazepine hypnotics are not a first-line medication, mainly due to the dependency risk, especially in long-term treatment. Sedating antidepressants are widely used as an alternative treatment (Wiegand 1999). However, these compounds have several side effects and tend to interact with other drugs, which is a problem especially in elderly patients.

For these reasons, neuroleptics play an increasing role in the management of chronic insomnia. In clinical practice, the use of neuroleptics in acute and chronic insomnia is traditionally widespread, e.g., melperone, pipamperone, promethazine, etc., especially in elderly insomniacs, as a sleeping medication. However, this is based on unsystematic clinical experience rather than on data: Systematic studies on the efficacy of neuroleptics in this indication are extremely limited. This is true for older compounds as well as for the more advanced and in many respects advantageous compounds like risperidone, olanzapine, and quetiapine.

Among the newer, "atypical" antipsychotics, quetiapine appears to be a specially promising "candidate" for the treatment of chronic insomnia in general and primary insomnia in particular. This dibenzothiazepin derivate has antagonistic effects on several central neurotransmitter systems: serotonin (5-HT_{1A} and 5-HT_2), dopamine (D_1 and D_2), histamine (H_1), and on adrenergic α_1 and α_2 receptors. There is virtually no action on cholinergic, muscarinergic, and benzodiazepine receptors. This special profile suggests a favorable effect on sleep, especially the combination of a 5-HT_2 receptor and an H_1 receptor blockade. Some antidepressants have a similar profile, e.g., mirtazapine, trazodone, and trimipramine. All of these compounds are used in the treatment of chronic insomnia (unrelated to depression).

Quetiapine's favorable effect on sleep in healthy probands as well as in depressed patients has been demonstrated by an increasing number of studies (e.g., Wetter et al. 2002; Cohrs et al. 2004; Calabrese et al. 2005; Sokolski and Brown 2006; Todder et al. 2006; Baune et al. 2007; Endicott et al. 2007.)

In an open pilot study, we treated 18 outpatients suffering from primary insomnia with quetiapine for 6 weeks. After a washout period of 1 week, medication was given at bedtime. The dose was 25 mg initially; in seven patients, it was increased to 50 mg, in one patient, to 75 mg. Sleep parameters were measured by repeated polysomnographies. Subjective sleep quality was assessed by means of the Pittsburgh Sleep Quality Index (PSQI; Buysse et al. 1989) and sleep diaries. Cognitive effects were assessed by means of a neuropsychological test battery.

The results demonstrated that quetiapine in a comparably low dose improved objective and subjective sleep parameters in patients with primary insomnia (Table 1). This improvement was already present after 2 weeks' medication, and then increased after 6 weeks' medication. The improvement was most clear in the subjective sleep variables as assessed by means of the PSQI and the patients' sleep diaries. The

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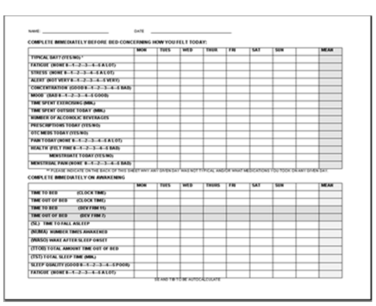
Springer

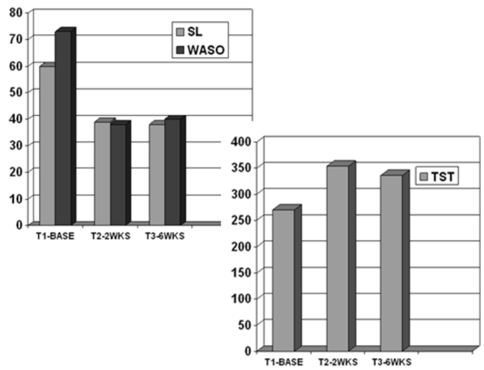
Table 1 Selected objective and subjective sleep parameters resulting from polysomnography and PSQI ratings

	T_1 (baseline)	T_2 (2 weeks med.)	*p*	T_3 (6 weeks med.)	*p*
Objective sleep quality (polysomnography)					
Subjective sleep quality (PSQI scores)					
Total score	13.1±2.3	9.1±3.3	0.00	6.8±3.3	0.00

Presented are means±SD. "*p*" refers to the change from baseline (Wilcoxon's test, two-tailed).
REM Rapid eye movements, *SPT* sleep period time, *PSQI* Pittsburgh Sleep Quality Inventory

WHAT ABOUT PROSPECTIVE SAMPLING DATA





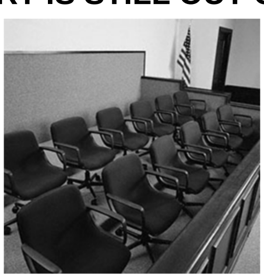
Quetiapine for Primary Insomnia: A Double Blind, Randomized Controlled Trial

J Med Assoc Thai 2010; 93 (6): 729-34

Insomnia is among the most common concerns in clinical practice. Numbers of studies have assessed the prevalence of insomnia. The findings vary, depending mostly on the criteria used for insomnia and the population studied. Data from the National Institutes of Health Epidemiologic Catchment Area (ECA) study, approximately 10-15% of adults in the United States suffer from chronic insomnia and 25-35% has transient or occasional insomnia. In European countries insomnia occurred in 19% of the population. ...

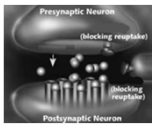
BOTTOM LINE

THE JURY IS STILL OUT ON THIS



PHARMA WARS 2004-2008

TREATMENTS IN RnD



NEW THERAPIES 2004-2008

- **Single Isomer Versions of "BZRAs" (Eszopiclone)**
- **Modified Release Versions of "BZRAs" (Zolpidem-CR)**
- **Orexin Antagonists**
- **Longer ½ life melatonin agonists**
- **5HT2A antagonists**
- **NK antagonists**
- **Atypical BZRAs (bind on cell body vs. the synapse)**
- **GABA Re-uptake Inhibitors & GABA Agonists**

IN SUM

BZRAs HAVE GOOD EFFICACY
AND APPEAR REASONABLE SAFE

SADs APPEAR TO HAVE GOOD EFFICACY
THOUGH THERE ARE CONCERNS ABOUT ADVERSE EVENTS

MELATONIN AGONISTS ARE "IFFY"

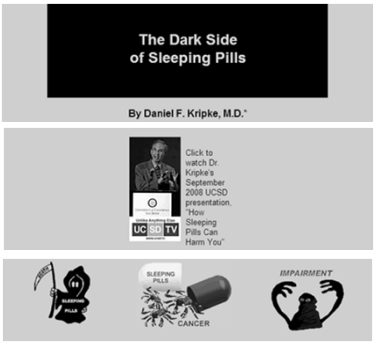
ANTIPSYCHOTICS
"THE JURRY IS OUT"

SO WHAT ABOUT

COMPARATIVE EFFICACY IN GENERAL (ZOLP)
COMPARATIVE EFFICACY BY TYPE / SUBTYPE

	NIH – 1983	NIH – 2005
Definition	Insomnia is a symptom, not a primary disorder	Insomnia is a disorder, typically comorbid with other disorders
Treatment	Treat the primary disorder (insomnia symptoms are sometimes addressed, sometimes ignored)	Chronic insomnia exists and merits treatment
	Hypnotics should generally be used only for short-term treatment	Treat insomnia as well as other disorder(s): improvements in insomnia may result in improvements in other disorder(s)
Other	Chronic insomnia occurs in the context of medical/psychiatric disorders	Insomnia is associated with significant impairment in function and quality of life

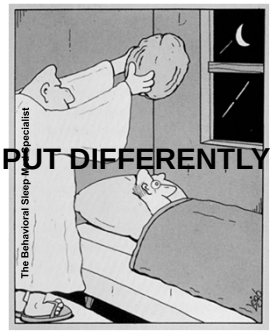
NOT EVERYONE, HOWEVER, IS KEEN ON BZRAs



AND NOW A WORD FROM OUR SPONSOR

Day 2:

Treatment of Insomnia with Behavioral Therapy



PUT DIFFERENTLY

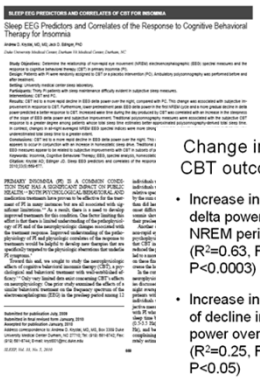
When proven ineffective, the sandman is replaced by the boulder guy

PLUS & MINUSES FOR EACH TREATMENT MODALITY

Behavior Therapy

+ Good "short" & long term efficacy
+ No issues re: drug interactions (?)
+ Does not alter sleep architecture (or maybe it does)
+ No rebound insomnia
+ No abuse potential
+ No issues re: LD

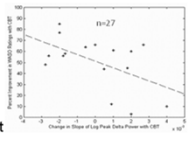
- Takes between 3 - 8 weeks
- Transient worsening of symptoms (1-2 weeks)
- Requires substantial patient compliance
- Only effective as practiced by specialists (?)


SLEEP EEG PREDICTORS AND CORRELATES OF CBT FOR INSOMNIA

Sleep EEG Predictors and Correlates of the Response to Cognitive Behavioral Therapy for Insomnia

Change in SWA indices correlate with CBT outcome: patient-reported WASO

- Increase in peak delta power for first NREM period (R^2=0.63, F=24, P<0.0003)
- Increase in the rate of decline in delta power over the night (R^2=0.25, F=4.7, P<0.05)



Effect of cognitive behavioural therapy for insomnia on sleep architecture and sleep EEG power spectra in psychophysiological insomnia

KATERINA CERVENA, YVES DAUVILLIERS, FABRICE ESPA, JACQUES TOUCHON, MILOS MATOUSEK, MICHEL BILLIARD and ALAIN BESSET

Sleep parameters	Before CBT-I	After CBT-I	Z	P	ES
Sleep architecture					
Total sleep time (min)	323.67 (37.32)	415.39 (41.35)	−2.67	0.008	−2.22
Stage 1 (min)	37.50 (15.96)	39.50 (12.68)	−0.77	0.441	−0.13
Stage 1 (%)	11.67 (4.92)	9.59 (3.15)	−1.95	0.051	0.48
Stage 2 (min)	168.39 (33.35)	206.06 (46.60)	−2.67	0.008	−0.89
Stage 2 (%)	52.37 (11.26)	49.36 (8.99)	−2.67	0.008	0.28
Slow wave sleep (min)	62.56 (33.30)	86.50 (23.77)	−2.55	0.01	−0.79
Slow wave sleep (%)	19.09 (9.21)	21.21 (7.13)	−1.24	0.214	−0.24
REM sleep (min)	55.22 (20.33)	83.33 (23.63)	−2.24	0.025*	−1.21
REM sleep (%)	16.87 (5.11)	19.85 (4.97)	−1.60	0.110	−0.56

Values in parenthesis represent SD. ES, effect size.

DOES THIS STUFF WORK ?

There is now an overwhelming preponderance of evidence that Cognitive Behavioral Therapy for insomnia (CBT-I) is efficacious, effective, as efficacious as sedative hypnotics during acute treatment (4-8 weeks), and is more efficacious in the long term (following treatment)

EFFICACY

Author	Year	Title	Journal
Morin et al.	1994	Nonpharmacological interventions for insom-nia: a meta-analysis of treatment efficacy	Am J Psychiatry, 151, 1172-1180
Murtagh & Greenwood	1995	Identifying effective psychological treatments for insomnia: a meta-analysis	J Consult Clin Psychol, 1995, 79-89
Pallesen et al.	1998	Nonpharmacological interventions for insom-nia in older adults: a meta-analysis of treat-ment efficacy	Psychotherapy, 35, 472-481
Montgomery & Dennis	2003	Cognitive behavioral interventions for sleep problems in adults aged 60+	Cochrane Library, 1, 1-39/ Sleep Med Rev,8, 47-62
Irwin et al.	2006	Comparative meta-analysis of behavioral interventions for insomnia and their efficacy in middle-aged adults and in older adults 55+ years of age	Health Psychology, 25,3-14.
Okajima et al.	2011	A meta-analysis on the treatment effective-ness of cognitive behavioral therapy for primary insomnia	Sleep & Biol Rhythms, 9,24-34
Mitchell et al	2012	Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review	BMC Family Practice, 13, 40-51
Miller et al.	2014	The evidence base of sleep restriction therapy for treating insomnia disorder	Sleep Med Rev, 18, 415-424
Koffel et al.	2015	A meta-analysis of group cognitive behaviorla therapy for insomnia	Sleep Med Rev, 19 epub

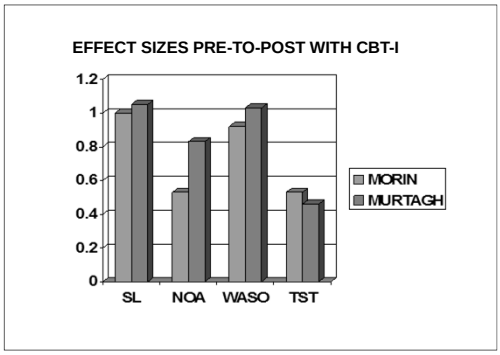
Compiled by Dieter Riemann

EFFICACY

Morin et al.
Nonpharmacological interventions for insomnia: a meta-analysis of treatment efficacy.
Am J Psychiatry 1994; 151(8):1172-1180.

Murtagh et al.
Identifying effective psychological treatments for insomnia: a meta-analysis.
J Consult Clin Psychol 1995; 63(1):79-89.

EFFICACY



RCT DATA AIN'T THE REAL WORLD !

RCT

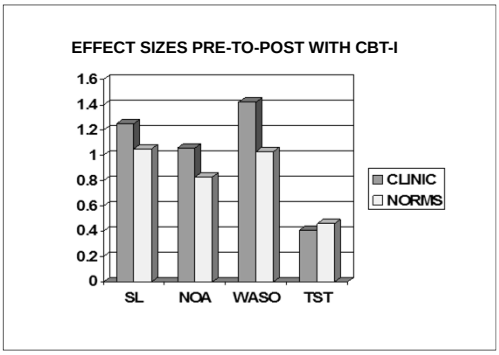
CLINIC

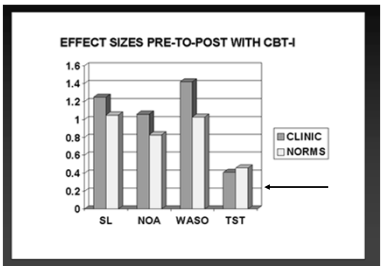
EFFECTIVENESS

AN EXAMPLE

Perlis, M, Aloia M, Boehmler J, Millikan A, Greenblatt D, Giles D. Behavior treatment of insomnia: a clinical case series study. The Journal of Behavioral Medicine,23(2)149-161, 2000.

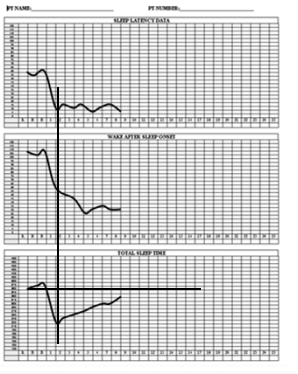
EFFECTIVENESS





WHY ARE THE TST EFFECTS SO POOR ?

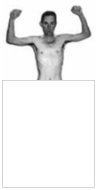
HERE'S WHY



HOW DOES PHARMACOTHERAPY WITH BZRAs COMPARE WITH COGNITIVE BEHAVIORAL THERAPY?

IS THIS AN ACCURATE REPRESENTATION ?

MEDICAL TX FOR INSOMNIA



CBT TX FOR INSOMNIA

I THINK NOT

RELATIVE EFFICACY

HOW DO MEDICAL AND BEHAVIORAL INTERVENTIONS COMPARE ?

Studies comparing CBT-I to pharmacological therapies

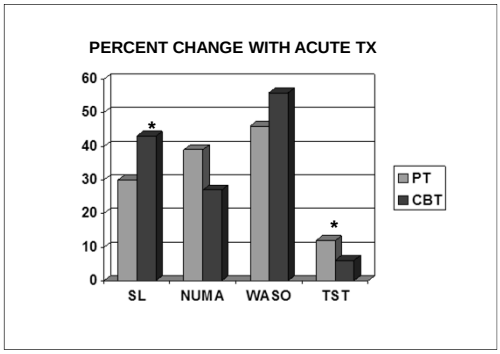
Study Location	Design Quality	Patients Longest follow-up	Intervention and duration	Comparison	Sleep measurements reported	Comment
CBT-I vs. zopiclone						
Siewtsen 2006 (26) Norway	RCT 5	46 patients, age 55 and up 12 months	Individual CBT-I, 6 weekly sessions	Zopiclone, 7.5 mg nightly	Sleep diaries, polysomnography	Study also included placebo group Daytime outcomes reported in (36)
CBT-I vs. zolpidem						
Jacobs 2004 (27) USA	RCT 5	63 patients, age 25-64 12 months	Individual CBT-I, 5 sessions, 6 weeks; plus 1 telephone session	Zolpidem, see comment	Sleep diaries, sleep monitor	Dose 10 mg→5 mg→5 mg q2d
CBT-I vs. temazepam						
Wu 2006 (29) China	RCT 2	77 patients 8 months	Individual CBT-I 2 per week, 8 weeks	Temazepam, see comment	Sleep diaries, polysomnography	Dose 7.5 mg→10 mg→15 mg Study also included placebo and combined therapy groups
Morin 1999 (28) Canada	RCT 6	70 patients, age 55 and up 24 months	Group CBT-I 8 weekly sessions	Temazepam, see comment	Sleep diaries, polysomnography	Dose 7.5 mg→30 mg as needed Study also included placebo and combined therapy groups. Adverse effects reported in (37) Attitudes reported in (38)
CBT-I vs. triazolam						
McCluskey 1991 (30) USA	RCT 4	30 patients 9 weeks	Group CBT-I 2 per week, 3 weeks	triazolam, 0.5 mg then tapered to 0	Sleep diaries	triazolam group also had weekly group meetings but no CBT-I

RELATIVE EFFICACY

HOW DO MEDICAL AND BEHAVIORAL INTERVENTIONS COMPARE ?

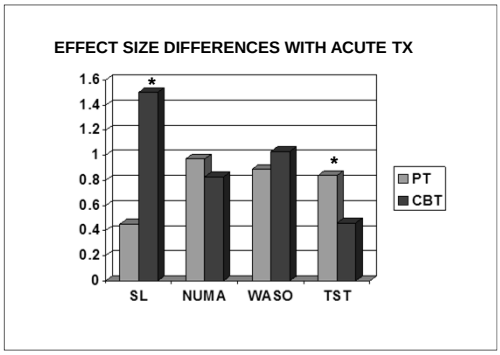
Smith MT, Perlis, ML, Park A, Giles DE, Pennington JA, Buysse, D. Behavioral treatment vs pharmacotherapy for Insomnia - A comparative meta-analyses. American Journal of Psychiatry. 159: 5-11. 2002.

COMPARATIVE EFFICACY



SMITH, PERLIS, ET AL., 2002

COMPARATIVE EFFICACY



CBT & PCT HAVE "EQUIPOTENCY" IN SHORT RUN

AND

CBT HAS BETTER EFFICACY IN THE LONG RUN (MAYBE – ASK AT BREAK)

WHAT ABOUT INDIVIDUAL RESULTS ?

CASE EXAMPLES ON DAY 3

WHAT ABOUT MODE OF DELIVERY ?

ON-LINE TREATMENT OF INSOMNIA

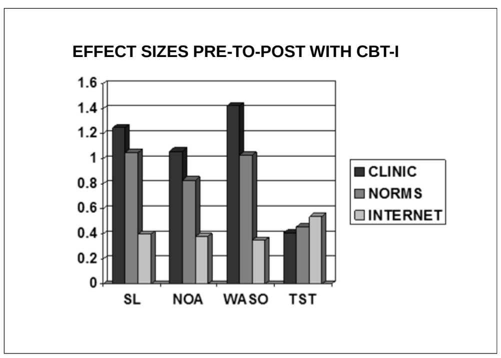
Logging on for Better Sleep: RCT of the Effectiveness of Online Treatment for Insomnia

Norah Vincent, PhD; Samantha Lewycky, MA

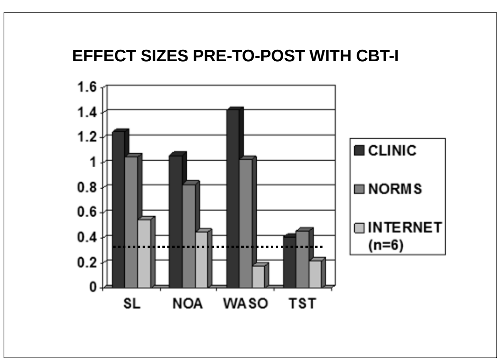
Department of Clinical Health Psychology, University of Manitoba, Manitoba, Canada

Study Objectives: Despite effective cognitive behavioral treatments for chronic insomnia, such treatments are underutilized. This study evaluated the impact of a 5-week, online treatment for insomnia.
Design: This was a randomized controlled trial with online treatment and waiting list control conditions.
Participants: Participants were 118 adults with chronic insomnia.
Setting: Participants received online treatment from their homes.
Intervention: Online treatment consisted of psychoeducation, sleep hygiene, and stimulus control instruction, sleep restriction treatment, relaxation training, cognitive therapy, and help with medication tapering.
Measurement and Results: From pre- to post-treatment, there was a 33% attrition rate, and attrition was related to referral status (i.e., drop-outs were more likely to have been referred for treatment rather than recruited from the community). Using a mixed model analysis of variance procedure (ANOVA), results showed that online treatment produced statistically significant improvements in the primary end points of sleep quality, insomnia severity, and daytime fatigue. Online treatment also produced significant changes in process variables of pre-sleep cognitive arousal and dysfunctional beliefs about sleep.
Conclusions: Implications of these findings are that identification of who most benefits from online treatment is a worthy area of future study.
Keywords: Online treatment, insomnia, self-administered treatment
Citation: Vincent N; Lewycky S. Logging on for better sleep: RCT of the effectiveness of online treatment for insomnia. SLEEP 2009;32(6):807-815.

EFFECTIVENESS



EFFECTIVENESS

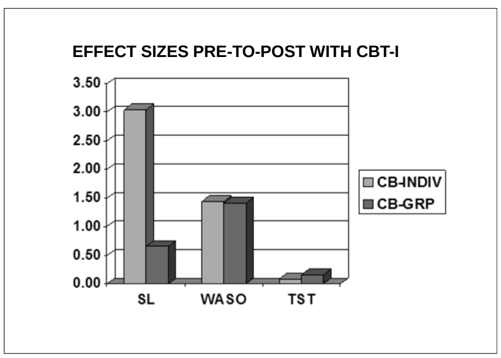


Cognitive–Behavioral Therapy for Insomnia: Comparison of Individual Therapy, Group Therapy, and Telephone Consultations

Célyne H. Bastien, Charles M. Morin, Marie-Christine Ouellet, France C. Blais, and Sébastien Bouchard

Université Laval, Québec

EFFECTIVENESS



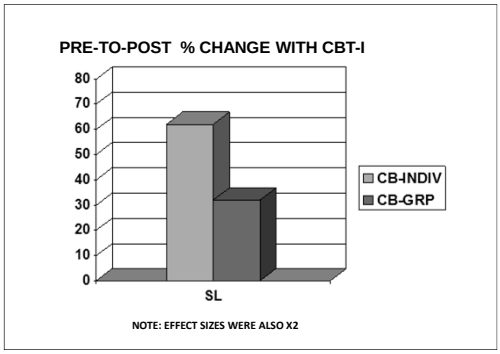
Célyne Bastien – JCCP 2004, Vol. 72, No. 4, 653–659

SLEEP AND BIOLOGICAL RHYTHMS

ORIGINAL ARTICLE

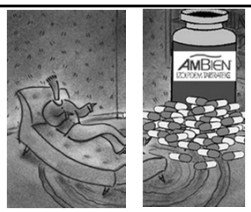
Comparisons of short-term efficacy between individual and group cognitive behavioral therapy for primary insomnia

EFFICACY



Yamadera et al. 2013 Sleep and Biological Rhythms

THOUGH WE HAVE SAID IT BEFORE
IT BEARS REPEATING



In an ideal world, the choice of therapy would be based on the following very simple principles: Pharmacotherapy is indicated in the instances where the condition is acute and the need for immediate symptom reduction is the primary consideration. This indication also carries with it the possibility that short term treatment for acute insomnia may have some prophylactic value against the development of chronic insomnia. That is, if sedative hypnotics are more frequently prescribed for such things as jet lag, insomnia related to acute medical illness or insomnia secondary to transient life stressors (e.g., bereavement), such a strategy may prevent the engagement of behavioral strategies which are thought to perpetuate insomnia and lead to conditioned arousal. Behavioral treatment is indicated in the instances where the condition is chronic and/or in acute cases where 1) pharmacotherapy is contraindicated, e.g. in pediatric or geriatric patients, 2) when there is a potential for drug interactions, or 3) when patients present with a history of substance abuse.

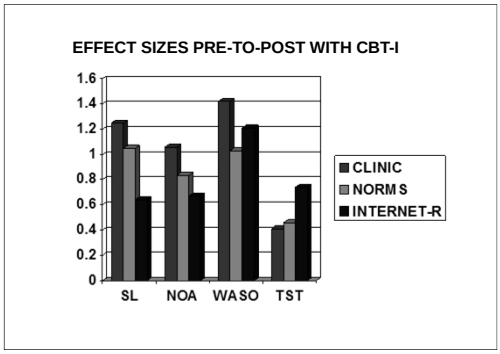
Journal of Psychosomatic Research, 54 (1): 51-59, 2003.

FOR A SURPRISINGLY GOOD 30K VIEW OF TX

BREAK

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

EFFECTIVENESS



Arch Gen Psychiatry. 2009 Jul;66(7):692-8

Day 3:

Introduction to CBT-I

INSOMNIA

CBT-I
COMPONENTS
TX DELIVERY

OK. SO IT WORKS.
WHAT IS IT ?

A HX PERSPECTIVE

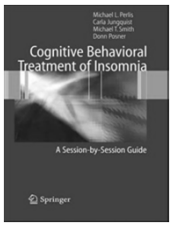
COGNITIVE & BEHAVIORAL TXs

SLEEPLESSNESS.

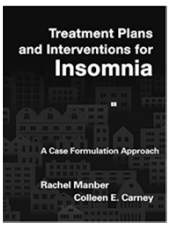
culled from the *Glasgow Herald* :

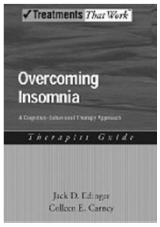
Soap your head with the ordinary yellow soap; rub it into the roots of the hair until your head is just lather all over, tie it up in a napkin, go to bed, and wash it out in the morning. Do this for a fortnight. Take no tea after 6 P.M.

READ MORE BROADLY



READ MORE BROADLY

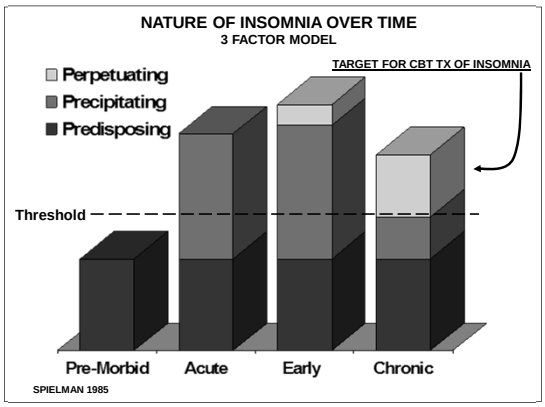




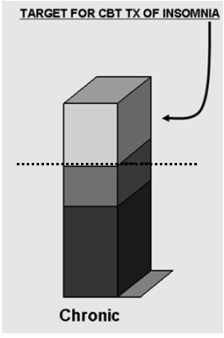
SO WHAT'S THE BETA ON CBT ?

WHEN I WOKE UP THIS MORNING MY GIRLFRIEND ASKED ME, "DID YOU SLEEP GOOD?" I SAID,

"NO, I MADE A FEW MISTAKES."
-- STEPHEN WRIGHT



WHAT ARE PERPETUATING FACTORS



PERPETUATING FACTORS

Common Compensatory Strategies Used to Cope with Insomnia

COMPENSATORY STRATEGY	EFFECT ON SLEEP
EXTENDING SLEEP OPPORTUNITY	
Go to Bed Early	De-primes "sleep homeostat" leading to insomnia and shallow sleep. Possible circadian dysregulation
Sleep in (Wake up later)	De-primes "sleep homeostat" Possible circadian dysregulation
Napping	De-primes "sleep homeostat."
COUNTER FATIGUE MEASURES	
Increased use of stimulants and/or inappropriately-timed use of stimulants	Increases sleep interfering states of arousal.
Avoid or decrease physical activity	May de-prime "sleep homeostat." Can lead to conditioned arousal if increased time spent resting in bed or in bedroom.
RITUALS & STRATEGIES	
Stay in bed and wait	Promotes a lack of stimulus control.
Increase in non-sleep behaviors in the bedroom to "kill time"	Promotes a lack of stimulus control.
Sleep somewhere other than the bedroom	Promotes a lack of stimulus control.
Engage in "rituals" which are thought to promote sleep (use of special herbs, teas, etc.)	Promotes a dependence on the behaviors and anticipatory anxiety when not available.
Avoidance of behaviors thought to inhibit sleep (e.g., sex, going outdoors near bedtime, etc.)	Promotes anticipatory anxiety when behaviors occur

INSOMNIA

TREATMENTS

- **Sleep Restriction**
- **Stimulus Control**
- **Sleep Hygiene**
- **Cognitive Therapy**
- **Phototherapy**
- **Relaxation**

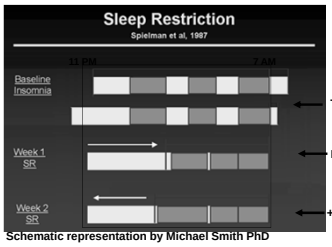
THE BT TRINITY

Sleep Restriction
Stimulus Control
Sleep Hygiene

THERAPY

SLEEP RESTRICTION
STIMULUS CONTROL
SLEEP HYGIENE
COGNITIVE THERAPY

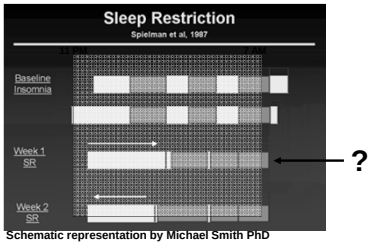
SLEEP RESTRICTION



Schematic representation by Michael Smith PhD

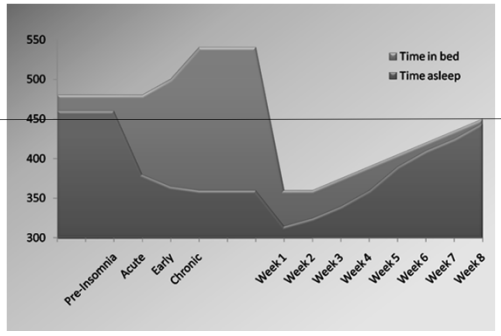
- Restrict to the number of hours in bed = average TST
- 4.0 Hrs should be the min - PCNA 1987:10(4),547
- PTTB and PTOB are inflexible
- Review ways to stay awake
- Keep diary
- Titration based on diary data (< 85%, 85-90%, > 90%)

SLEEP RESTRICTION



Schematic representation by Michael Smith PhD

TIB: BEFORE, OVER TIME, AND W/ TX



Schematic representation by Michael Grandner PhD

THERAPY

SLEEP RESTRICTION
STIMULUS CONTROL
SLEEP HYGIENE
COGNITIVE THERAPY

STIMULUS CONTROL

1. Lie down to go to sleep only when you are sleepy / sleep only in the bedroom.

2. Do not use your bed for anything except sleep and sex.

3. If you find yourself unable to fall asleep, get up and go into another room. Stay up as long as you wish and then return to the bedroom to sleep.

4. If you still cannot fall asleep, repeat step (3).

5. Set your alarm and get up at the same time every morning irrespective of how much sleep you got during the night.

6. Do not nap during the day.

Disclaimer--illness & driving

STIMULUS CONTROL

1. Lie down to go to sleep at the prescribed TTB sleepiness

2. Do not use your bed for anything except sleep and sex.

3. If you find yourself unable to fall asleep, get up and go into Another room. Stay up for 30,60, or 120 minutes. wishing

4. If you still cannot fall asleep, repeat step (3).

5. Set your alarm and get up at the same time every morning irrespective of how much sleep you got during the night.

6. Do not nap during the day.

WHAT IS "STIMULUS CONTROL ?"

GOOD STIMULUS CONTROL

ODDS 1 IN 2

BEDROOM BEDTIME

SEX

SLEEP

STIMULUS DYSCONTROL

ODDS 1 IN 8

EAT IN BED

READ IN BED

WATCH TV IN BED

BEDROOM BEDTIME

SEX

SLEEP

WORK IN BED

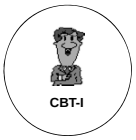
WORRY IN BED

CLEAN BDRM

AN EXAMPLE OF POOR STIMULUS CONTROL

"Now, when I can't sleep I can watch a little TV."

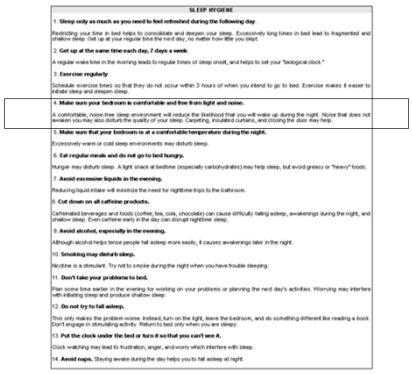
THERAPY



CBT-I

SLEEP RESTRICTION
STIMULUS CONTROL
SLEEP HYGIENE
COGNITIVE THERAPY

SLEEP HYGIENE



SLEEP HYGIENE

1. **Sleep only as much as you need to feel refreshed during the following day**

Restricting your time in bed helps to consolidate and deepen your sleep. Excessively long times in bed lead to fragmented and shallow sleep. Get up at your regular time the next day, no matter how little you slept.

2. **Get up at the same time each day, 7 days a week**

A regular wake time in the morning leads to regular times of sleep onset, and helps to set your "biological clock."

3. **Exercise regularly**

Schedule exercise times so that they do not occur within 3 hours of when you intend to go to bed. Exercise makes it easier to initiate sleep and deepen sleep.

4. **Make sure your bedroom is comfortable and free from light and noise.**

A comfortable, noise-free sleep environment will reduce the likelihood that you will wake up during the night. Noise that does not awaken you may also disturb the quality of your sleep. Carpeting, insulated curtains, and closing the door may help.

5. **Make sure that your bedroom is at a comfortable temperature during the night.**

Excessively warm or cold sleep environments may disturb sleep.

6. **Eat regular meals and do not go to bed hungry.**

Hunger may disturb sleep. A light snack at bedtime (especially carbohydrates) may help sleep, but avoid greasy or "heavy" foods.

7. **Avoid excessive liquids in the evening.**

Reducing liquid intake will minimize the need for nighttime trips to the bathroom.

8. **Cut down on all caffeine products.**

Caffeinated beverages and foods (coffee, tea, cola, chocolate) can cause difficulty falling asleep, awakenings during the night, and shallow sleep. Even caffeine early in the day can disrupt nighttime sleep.

9. **Avoid alcohol, especially in the evening.**

Although alcohol helps tense people fall asleep more easily, it causes awakenings later in the night.

10. **Smoking may disturb sleep.**

Nicotine is a stimulant. Try not to smoke during the night when you have trouble sleeping.

11. **Don't take your problems to bed.**

Plan some time earlier in the evening for working on your problems or planning the next day's activities. Worrying may interfere with initiating sleep and produce shallow sleep.

12. **Do not try to fall asleep.**

This only makes the problem worse. Instead, turn on the light, leave the bedroom, and do something different like reading a book. Don't engage in stimulating activity. Return to bed only when you are sleepy.

13. **Put the clock under the bed or turn it so that you can't see it.**

Clock watching may lead to frustration, anger, and worry which interfere with sleep.

14. **Avoid naps.** Staying awake during the day helps you to fall asleep at night.

SLEEP HYGIENE

SLEEP HYGIENE
IS ALMOST ALWAYS PART OF "CBT"

THERAPY

SLEEP RESTRICTION
STIMULUS CONTROL
SLEEP HYGIENE
COGNITIVE THERAPY

COGNITIVE THERAPY

OFTEN NOT A PART OF "CBT"

<u>WHEN INCLUDED IT'S</u>
NOT WELL STANDARDIZED
NOT WELL EVALUATED

TWO TYPES: GENERAL CT AND TARGETED CT

COGNITIVE THERAPY – GENERAL

SETTING EXPECTATION & INSURING COMPLIANCE

- **WILL GET WORSE BEFORE BETTER**
- **COMMIT TO THE PROCESS (# of nights)**
- **LONG-TERM GOALS**

  DON'T EXPECT TO
  SLEEP LIKE A BABY
  NEVER HAVE ANOTHER NIGHT OF INSOMNIA

  DON'T EXPECT 8 HOURS – YOU MAY NOT NEED IT
- **THINK OF ACUTE INSOMNIA IN RESPONSE TO STRESS AS A SOLUTION VS A PROBLEM**

YOU HEARD IT BEFORE – BUT

LONG-TERM GOALS

NOMOTHETICS ǂ IDIOGRAPHICS

INDIVIDUALS MAY SEEK MORE SLEEP THAN THEY NEED WHEN IDIOGRAPHIC SLEEP NEEDS ARE DEFINED BY NOMOTHETIC GOALS.
LICHSTEIN 2010

LONG-TERM GOALS

"DON'T EXPECT 8 HOURS – YOU MAY NOT NEED IT"

COGNITIVE THERAPY – TARGETED

TYPES

DEBUNKING DYSFUNCTIONAL BELIEFS - MORIN

COGNITIVE RESTRUCTURING - HARVEY

WORRY AND RUMINATION
ATTENTION BIAS
SAFETY BEHAVIORS

DECATASTROPHIZATION - PERLIS

WHAT ABOUT BRIGHT LIGHT THERAPY ?

USUALLY NOT A PART OF "CBT"

<u>WHEN INCLUDED IT'S</u>
NOT WELL STANDARDIZED
NOT WELL EVALUATED

PURPOSES
EXTEND WAKEFULNESS TO P-TTB
TREAT SUB-CLINICAL PHASE SHIFTS

THERAPY

TX DELIVERY

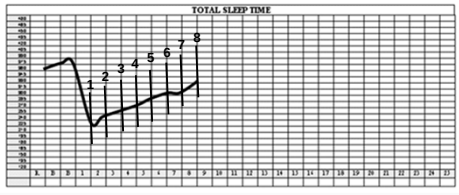
THERAPY SCHEDULE

Session 1- Assessment and providing sleep log
Session 2- Education, restriction, stimulus control
Session 3- Problem solve and sleep hygiene
Session 4- Upward titration
Session 5- Upward titration & cognitive Tx
Session 6- Upward titration
Session 7- Upward titration
Session 8- Relapse prevention

WHY 8 SESSIONS ?

HERE'S 8 REASONS

(ASSUMING PERFECT COMPLIANCE)

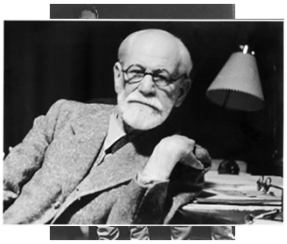


WHY 8 SESSIONS ?

- WHAT AMOUNT OF SUCCESS GUARANTEES COMPLIANCE ?
- WHAT AMOUNT OF BEHAVIORAL CHANGE – CHANGES COGNITION ?
- HOW MUCH IMPROVED SLEEP LEADS TO COUNTER CONDITIONING

AND FOR THAT MATTER HOW MUCH TREATMENT IS REQUIRED/STANDARD FOR CBT FOR OTHER ILLNESSES ?!

THERAPIST



TREATMENT SETTING

- PRIVATE PRACTICE – HOME OFFICE
- SLEEP DX CENTER – PRIVATE OFFICE
- SLEEP DX CENTER - SHARED SPACE
- PRIMARY CARE - SHARED SPACE

TREATMENT TOOLS

- WHITE BOARD
- ROUND TABLE
- CALCULATOR OR EXCEL CALCULATOR
- INTERNET ACCESS ?
- RECORDING EQUIPMENT

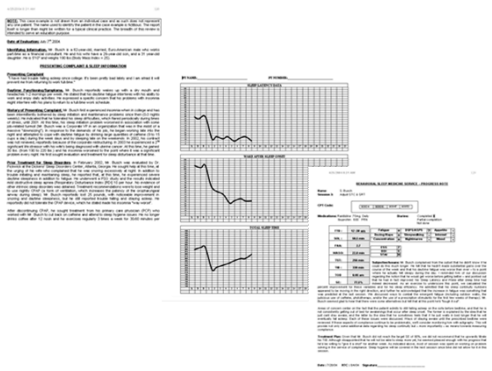
SETTING EXPECTATIONS

- THEY ARE IN “THE RIGHT PLACE WITH THE RIGHT PERSON”
- THERAPY IS SHORT TERM (6-12 WEEKS)
- THEY WILL GET WORSE BEFORE THEY GET BETTER
- LONG-TERM GOALS (BABY AND NEVER AGAIN)
- WHAT’S LEARNED IS FOR LIFE…
- TX IS VERY EFFECTIVE
- TO GAIN THEY MUST COMPLY

PREREQUISITES

- MEDICALLY AND PSYCHIATRICALLY STABLE
- ADEQUATE LANGUAGE COMPREHENSION
- TIME FOR TREATMENT
- TIME TO BE “OFF THEIR GAME”
- COMPLIANCE WITH DIARIES
- COMPLIANCE WITH PRESCRIPTIONS

CHARTING



CHARTING

Date of Evaluation:
Identifying Information.

PRESENTING COMPLAINT & SLEEP INFORMATION

Presenting Complaint
Daytime Functioning/Symptoms.
History of Presenting Complaint.
Prior Treatment for Sleep Disorders.
Sleep Continuity/Quality
Sleep Habits and Environment.

FAMILY & SOCIAL HISTORY

MEDICAL AND PSYCHIATRIC INFORMATION

Medical History.

Current Medications:
Psychiatric History:
Mental Status Exam.

SUMMARY OF RESULTS FROM ASSESSMENT MEASURES

INSTRUMENT	MEASURE OF	SCORE RANGE	PATIENT'S SCORE
ISI	Severity of Insomnia	0 – 28	19
PSQI	Sleep Quality	0 – 21	10
ESS	Daytime Sleepiness	0 – 24	9
KSS	Daytime Sleepiness	0 – 9	6

CASE CONCEPTUALIZATION

Socioeconomic and Cultural Factors.
Social and Behavioral Factors
Life Events.
Genetic and Temperament.

OVERALL CONCEPTUALIZATION

DIAGNOSIS & TREATMENT PLAN

Diagnostic Impression:

Axis I
Axis II
Axis III
Axis IV:
Axis V:

Treatment Plan

CHARTING

CASE CONCEPTUALIZATION

From VA Roll out for CBT-I, Program Chair Rachel Manber PhD

1. What factors may be weakening the signal from the patient's biological clock? (e.g., irregular rise time, time in bed window that is not congruent with the patient's circadian type.)
2. What factors may be weakening the patient's sleep drive? (e.g., extended time in bed, dozing off in the evening, daytime napping)
3. What aspects of hyper-arousal are evident? (e.g., conditioned arousal, excessive sleep effort, specific erroneous beliefs about sleep, presence of hyper-active mind in bed)
4. What substances may be interfering with sleep? (e.g., sleep medications, caffeine, alcohol, nicotine, marijuana/other drugs, stimulants, other medications, nocturnal eating)
5. What comorbidities may impact the patient's sleep and how? (e.g., depression may contribute to excessive time in bed, PTSD is associated with hyper-vigilance, improperly adjusted CPAP therapy may be interfering with sleep)

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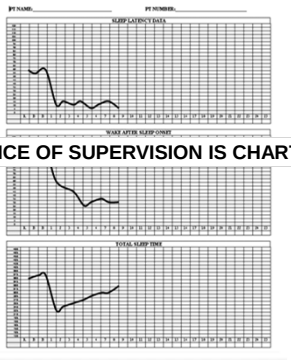

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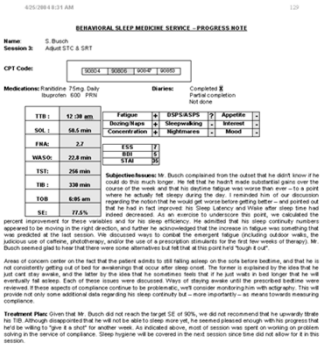


BEHAVIORAL SLEEP MEDICINE SERVICE – PROGRESS NOTE

Name: S. Busch
Session 3: Adjust STC & SRT

CPT Code: 90804 | 90806 | 90849 | 90855

Medications: Ranitidine 75mg Daily; Ibuprofen 600 PRN

Diaries: Completed X; Partial completion; Not done

TTB :	12 :30 am	Fatigue	+	DSPS&SPS	?	Appetite	-
		Dozing/Naps	+	Sleepwalking	-	Interest	-
SOL :	58.5 min	Concentration	+	Nightmares	-	Mood	-
FMA:	2.7						
WASO:	22.8 min	ESS	7				
		SSS	5				
TST:	256 min	STAI	35				
TIB :	330 min						
TOB	6:05 am						
SE:	77.5%						

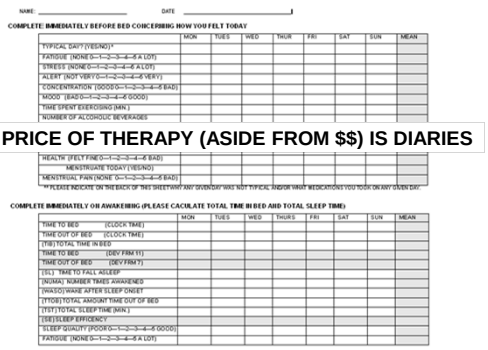
Subjective Issues: Mr. Busch complained from the outset that he didn't know if he could do this much longer. He felt that he hadn't made substantial gains over the course of the week and that his daytime fatigue was worse than ever – to a point where he actually fell sleepy during the day. I reminded him of our discussion regarding the notion that he would get worse before getting better – and pointed out that he had in fact improved: his Sleep Latency and Wake after sleep time had indeed decreased. As an exercise to underscore this point, we calculated the percent improvement for these variables and for his sleep efficiency. He admitted that his sleep continuity numbers appeared to be moving in the right direction, and further he acknowledged that the increase in fatigue was something that was predicted at the last session. We discussed ways to combat the emergent fatigue (including outdoor walks, the judicious use of caffeine, phototherapy, and/or the use of a prescription stimulants for the first few weeks of therapy). Mr. Busch seemed glad to hear that there were some alternatives but felt that at this point he'd "tough it out".

Areas of concern center on the fact that the patient admits to still falling asleep on the sofa before bedtime, and that he is not consistently getting out of bed for awakenings that occur after sleep onset. The former is explained by the idea that he just cant stay awake, and the latter by the idea that he sometimes feels that if he just walks in bed longer that he will eventually fall asleep. Each of these issues were discussed. Ways of staying awake until the prescribed bedtime were reviewed. If these aspects of compliance continue to be problematic, we'll consider monitoring him with actigraphy. This will provide not only some additional data regarding his sleep continuity but – more importantly – as means towards measuring compliance.

Treatment Plan: Given that Mr. Busch did not reach the target SE of 90%, we did not recommend that he upwardly titrate his TIB. Although disappointed that he will not be able to sleep more yet, he seemed pleased enough with his progress that he'd be willing to "give it a shot" for another week. As indicated above, most of session was spent on working on problem solving in the service of compliance. Sleep hygiene will be covered in the next session since time did not allow for it in this session.

Date : 7/28/04 **RTC :** 8/4/04 **Signature**_____

SLEEP DIARIES



NAME: _____ DATE: _____

COMPLETE IMMEDIATELY BEFORE BED CONCERNING HOW YOU FELT TODAY

	MON	TUES	WED	THUR	FRI	SAT	SUN	MEAN
TYPICAL DAY? (YES/NO) *								
FATIGUE (NONE 0—1—2—3—4—5 A LOT)								
STRESS (NONE 0—1—2—3—4—5 A LOT)								
ALERT (NOT VERY 0—1—2—3—4—5 VERY)								
CONCENTRATION (GOOD 0—1—2—3—4—5 BAD)								
MOOD (BAD 0—1—2—3—4—5 GOOD)								
TIME SPENT EXERCISING (MIN.)								
NUMBER OF ALCOHOLIC BEVERAGES								
HEALTH (FELT FINE 0—1—2—3—4—5 BAD)								
MENSTRUATE TODAY (YES/NO)								
MENSTRUAL PAIN (NONE 0—1—2—3—4—5 BAD)								

** PLEASE INDICATE ON THE BACK OF THIS SHEET WHY ANY GIVEN DAY WAS NOT TYPICAL AND/OR WHAT MEDICATIONS YOU TOOK ON ANY GIVEN DAY.

COMPLETE IMMEDIATELY ON AWAKENING (PLEASE CACULATE TOTAL TIME IN BED AND TOTAL SLEEP TIME)

	MON	TUES	WED	THURS	FRI	SAT	SUN	MEAN
TIME TO BED (CLOCK TIME)								
TIME OUT OF BED (CLOCK TIME)								
[TIB] TOTAL TIME IN BED								
TIME TO BED (DEV FRM Y!)								
TIME OUT OF BED (DEV FRM Y)								
[SL] TIME TO FALL ASLEEP								
[NUMA] NUMBER TIMES AWAKENED								
[WASO] WAKE AFTER SLEEP ONSET								
[TTOB] TOTAL AMOUNT TIME OUT OF BED								
[TST] TOTAL SLEEP TIME (MIN.)								
[SE] SLEEP EFFICIENCY								
"SLEEP QUALITY (POOR 0—1—2—3—4—5 GOOD)								
"FATIGUE (NONE 0—1—2—3—4—5 A LOT)								

THE PRICE OF THERAPY (ASIDE FROM $$) IS DIARIES

PATHWAY(S) TO CLINICAL EXCELLNCE

Schematic representation by Michael Smith PhD

DO NOT UNDER DOSE SLEEP RESTRICTION

Schematic representation by Michael Smith PhD

DO NOT OVER DOSE TIB DURING TITRATION

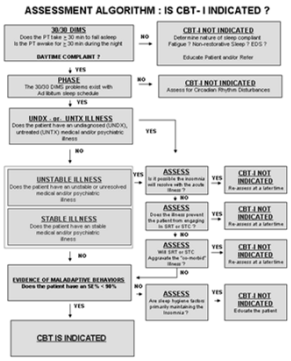
4-8 SESSIONS IS OFTEN NOT ENOUGH, STAY OPEN TO MORE SESSIONS THAN IS SOP…

FINALLY

WHO IS A GOOD CANDIDATE FOR CBT-I

WHO IS A GOOD CANDIDATE FOR CBT- I ?

ASSESSMENT ALGORITHM : IS CBT- I INDICATED ?



HEALTH PSYCHOL. 2006 JAN;25(1):15-9.

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

Day 3:

Conducting CBT-I

Session 1 (Assessment)

CBT-I TX OF INSOMNIA:

SESSION BY SESSION

TODAY

TALK 1
-Session 1
-Assessment

TALK 2
-Session 2 (Prescription)

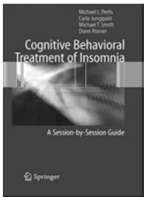
TALK 3
- Session 3
-Compliance
-Sleep Hygiene

TALK 4
- Session 4
Titration & compliance

TALK 5
Cognitive Therapy

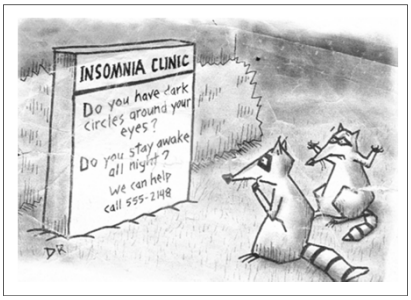
TALK 6
- Sessions 6,7,9
Titration & compliance
End of Treatment
Relapse Prevention

CONDUCT TX BY THE BOOK

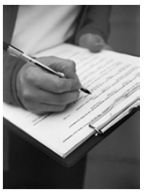


ASSESSMENT

HERE'S WHY



SESSION 1 – ASSESSMENT



BSM ASSESSMENT

Session One (Intake Evaluation; 60-120 min.)

Tasks
Introduce yourself to the patient
Complete Intake Questionnaires
Conduct Clinical Interview
Determine if patient is a candidate for CBT-I
Determine other treatment options
Present An Overview of Treatment Options
Orient Patient to the Sleep Diary (and actigraph)
Field Patient Questions & Address Resistances
Setting the Weekly Agenda

WHAT IS ASSESSMENT FOR ?

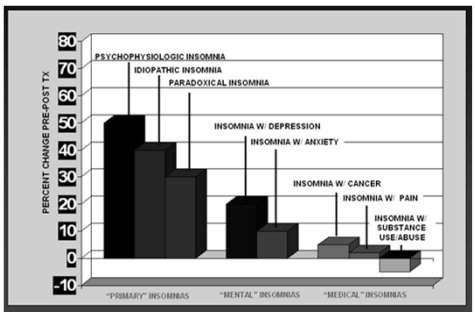
TO CONDUCT A DIFFERENTIAL DIAGNOSIS ?

TO ASSESS WHETHER THE INSOMNIA IS PRIMARY OR SECONDARY ?

TO ASSESS FOR CONTRAINDICATIONS AND COMPLICATING FACTORS

TO ASSESS FOR INSOMNIA TYPES OR SUBTYPES ?

DOES TREATMENT OUTCOME VARY AS A FUNCTION OF INSOMNIA TYPE AND/OR COMORBID ILLNESS ?



DOES TREATMENT VARY AS A FUNCTION OF COMORBID ILLNESS ?

SHORT ANSWER:
NO.

LONGER ANSWER:
THE DATA TO DATE SUGGEST THAT

CBT-I IS EQUALLY EFICACIOUS FOR "PRIMARY AND SECONDARY" INSOMNIA

MEDS APPEAR TO BE MORE EFFICACIOUS WITH "PRIMARY" INSOMNIA

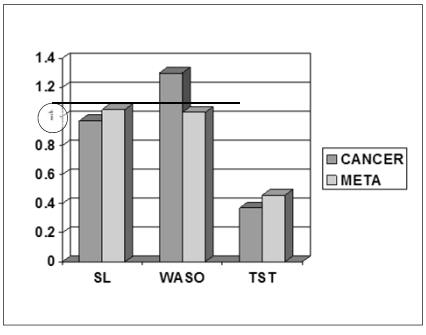
SUCCESSFUL TREATMENT OF "SI" WITH CBT-I

- Cannici et al., 1983
- Currie et al., 2000; 2004
- Dashevsky & Kramer, 1998
- Davidson et al., 2001
- De Berry, 1981-82
- Dopke et al., 2004
- Edinger et al., 2005
- French & Tupin, 1974
- Germain et al. 2006; 2007
- Kolko, 1984
- Krakow et al., 2001
- Lichstein et al., 2000
- Morawetz, 2001
- Morin et al., 1989
- Morin et al., 1990
- Perlis et al., 2001
- Quesnel et al., 2003
- Rybarczyk et al., 2002
- Stam & Bultz, 1986
- Savard et al. 2005
- Tan et al., 1987
- Varni, 1980

SLIDE ADAPTED FROM KEN LICHSTEIN

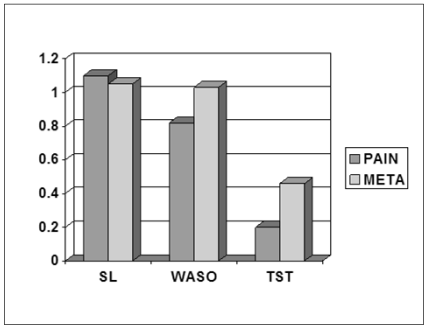
- Cancer
  - Cannici et al., 1983
  - Stam & Bultz, 1986
  - Davidson et al., 2001
  - Quesnel et al., 2003
  - Savard et al., 2005
- Various psychiatric disorders
  - Tan et al., 1987
  - Dashevsky & Kramer, 1998
  - Perlis et al., 2001
  - Krakow et al., 2001(PTSD)
  - Morawetz, 2001 (Depression)
  - Currie et al. 2004 (Alcoholism)
  - Dopke et al., 2004
  - Germain et al., 2006;2007 (PTSD)
  - Manber et al. 2008
- Various medical problems
  - Varni, 1980
  - Kolko, 1984
  - De Berry, 1981-82
  - Lichstein et al., 2000
  - Perlis et al., 2001
  - Rybarczyk et al., 2002
- Pain
  - French & Tupin, 1974
  - Morin et al., 1989
  - Morin et al., 1990
  - Currie et al., 2000
  - Edinger et al., 2005
  - Jungquist et al. 2010

CBT-I FOR INSOMNIA IN CANCER SURVIVORS



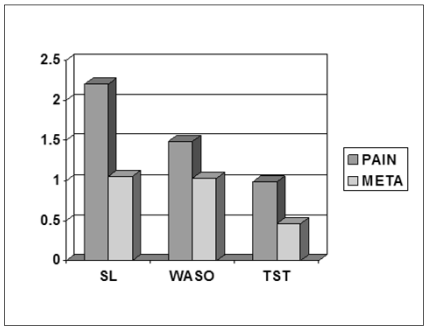
SAVARD ET AL. JCO 2005

CBT-I FOR INSOMNIA IN PATIENTS WITH CHRONIC PAIN



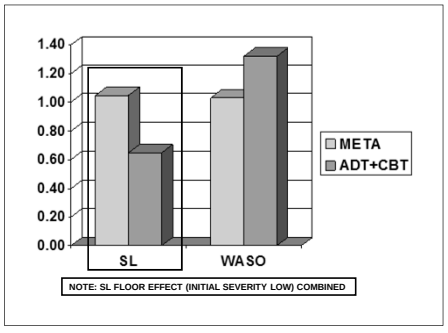
CURRIE ET AL. JCCP 2000

CBT-I FOR INSOMNIA IN PATIENTS WITH CHRONIC PAIN



JUNGQUIST ET AL. 2010

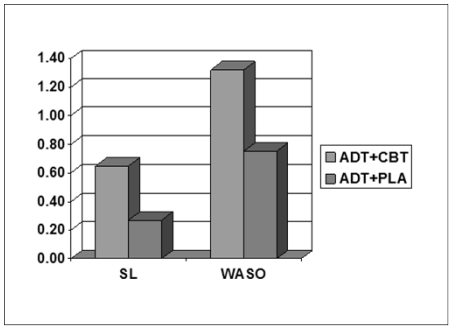
CBT-I FOR INSOMNIA IN PATIENTS WITH MAJOR DEPRESSION



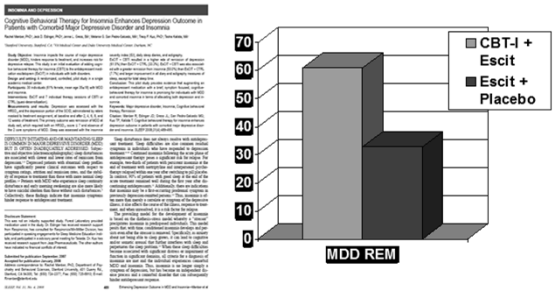
MANBER ET AL. 2008

“BUT WAIT – THERE’S MORE !”

CBT-I FOR INSOMNIA IN PATIENTS WITH MAJOR DEPRESSION



MANBER ET AL. 2008



The New York Times

TUESDAY, NOVEMBER 19, 2013

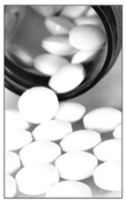
Sleep Therapy Seen as an Aid For Depression

Study Finds Big Benefit in Treating Insomnia

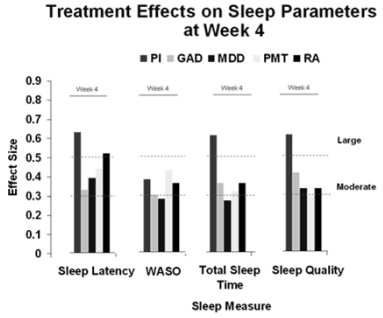
By BENEDICT CAREY

Curing insomnia in people with depression could double their chance of a full recovery, scientists are reporting. The findings,

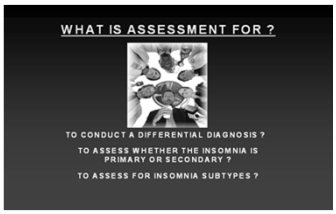
HOW DOES PHARMACOTHERAPY FARE VIZ. THE TREATMENT OF "SECONDARY" INSOMNIA ?



SUCCESSFUL PHARMACOLOGIC TREATMENT OF PI AND SI



SCHAEFER K ET AL. SLEEP,30, S, 244. 2007
SLIDE ADAPTED FROM SCHAEFER – PROVIDED BY SEPRACOR INC.

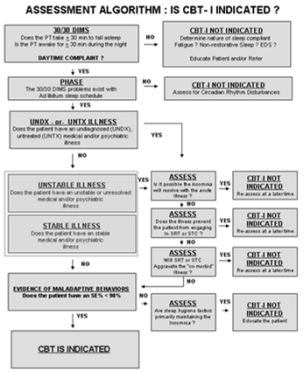


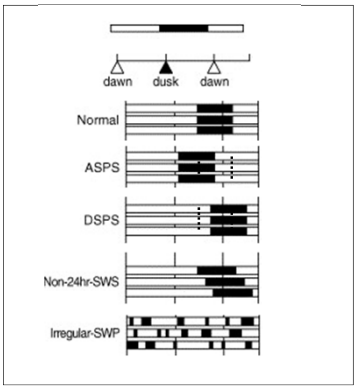
HOW ABOUT A DIFFERENT APPROACH ?

IS TREATMENT INDICATED ?

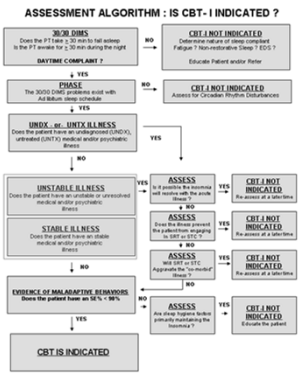
IS TREATMENT CONTRA-INDICATED ?

WHO IS A GOOD CANDIDATE FOR CBT- I ?





WHO IS A GOOD CANDIDATE FOR CBT- I ?



ASSESSMENT

WHAT IS ASSESSMENT FOR ?

TO CONDUCT A DIFFERENTIAL DIAGNOSIS ?

TO ASSESS WHETHER THE INSOMNIA IS PRIMARY OR SECONDARY ?

TO ASSESS FOR CONTRAINDICATIONS AND COMPLICATING FACTORS

TO ASSESS FOR INSOMNIA TYPES OR SUBTYPES ?

PRE-ASSESSMENT

WARMUP PEOPLE TO THE IDEA OF CANDID RESPONSES

BSM ASSESSMENT

TOOLS
PRELCINIC VS. AT CLINIC

BSM ASSESSMENT

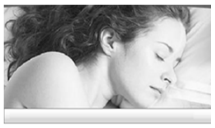
THE PATIENT – IN THEIR OWN WORDS

GWEN DESCRIBES

BSM ASSESSMENT

TOOLS

ASSESSMENT



Study Protocol Forms

All Forms:

To complete a form below, click on its title.

MED & PSYCH ASSESSMENT

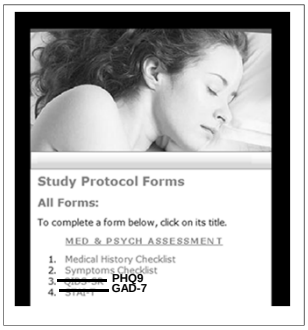
1. Medical History Checklist
2. Symptoms Checklist
3. QIDS-SR
4. STAI-T

SLEEP ASSESSMENT

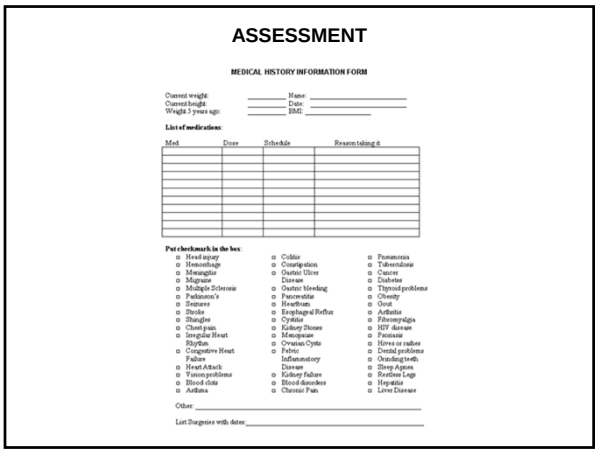
1. Sleep Disorders Checklist
2. Insomnia History Form
3. Sleep Medication History Form
4. Insomnia Severity Index
5. Daily Sleep Diary
6. Epworth Sleepiness Scale (ESS)

http://www.vistasleepassessment.com/

ASSESSMENT



ASSESSMENT



MEDICAL HISTORY INFORMATION FORM

Current weight: _____ Name: _____
Current height: _____ Date: _____
Weight 5 years ago: _____ BMI: _____

List of medications:

Med	Dose	Schedule	Reason taking it

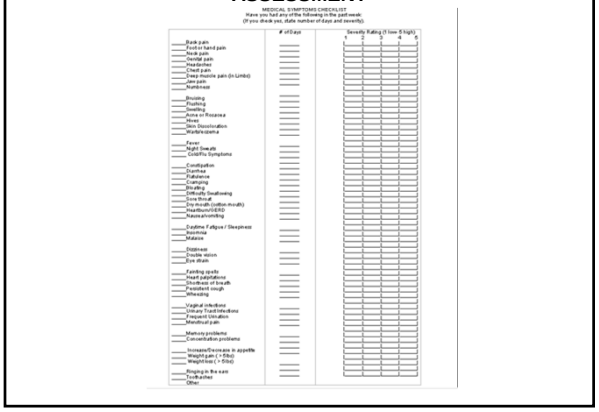
Put checkmark in the box:

- ☐ Head injury
- ☐ Hemorrhage
- ☐ Meningitis
- ☐ Migraine
- ☐ Multiple Sclerosis
- ☐ Parkinson's
- ☐ Seizures
- ☐ Stroke
- ☐ Shingles
- ☐ Chest pain
- ☐ Irregular Heart Rhythm
- ☐ Congestive Heart Failure
- ☐ Heart Attack
- ☐ Vision problems
- ☐ Blood clots
- ☐ Asthma
- ☐ Colitis
- ☐ Constipation
- ☐ Gastric Ulcer Disease
- ☐ Gastric bleeding
- ☐ Pancreatitis
- ☐ Heartburn
- ☐ Esophageal Reflux
- ☐ Cystitis
- ☐ Kidney Stones
- ☐ Menopause
- ☐ Ovarian Cysts
- ☐ Pelvic Inflammatory Disease
- ☐ Kidney failure
- ☐ Blood disorders
- ☐ Chronic Pain
- ☐ Pneumonia
- ☐ Tuberculosis
- ☐ Cancer
- ☐ Diabetes
- ☐ Thyroid problems
- ☐ Obesity
- ☐ Gout
- ☐ Arthritis
- ☐ Fibromyalgia
- ☐ HIV disease
- ☐ Psoriasis
- ☐ Hives or rashes
- ☐ Dental problems
- ☐ Grinding teeth
- ☐ Sleep Apnea
- ☐ Restless Legs
- ☐ Hepatitis
- ☐ Liver Disease

Other: _____

List Surgeries with dates: _____

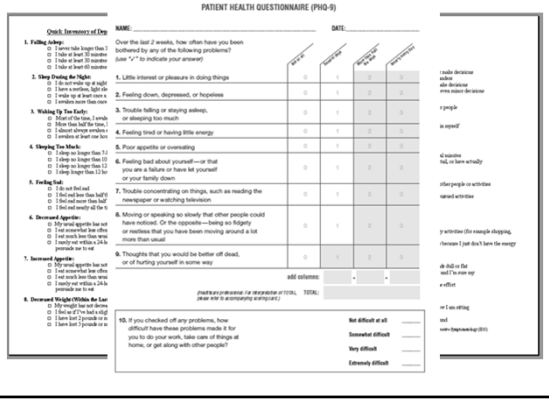
ASSESSMENT



MEDICAL SYMPTOMS CHECKLIST
Have you had any of the following in the past week:
(If you check yes, state number of days and severity)

	# of Days	Severity Rating (1 low 5 high) 1 2 3 4 5
Back pain		
Muscle and joint pain		
Neck pain		
Dental pain		
Headaches		
Chest pain		
Deep muscle pain (in Limbs)		
ear pain		
Numbness		
Bruising		
Rashes		
Swelling		
Acne or Rosacea		
Hives		
Skin Discoloration		
Warts/eczema		
Fever		
Night Sweats		
Cold/Flu Symptoms		
Constipation		
Diarrhea		
Fullulence		
Cramping		
Nausea		
Difficulty Swallowing		
Sore throat		
Dry mouth (cotton mouth)		
Heartburn/GERD		
Nausea/vomiting		
Sublime Fatigue / Sleepiness		
Insomnia		
Malaise		
Dizziness		
Double vision		
Eye strain		
Fainting spells		
Heart palpitations		
Shortness of breath		
Persistent cough		
Wheezing		
Vaginal infections		
Urinary Tract Infections		
Frequent Urination		
Menstrual pain		
Memory problems		
Concentration problems		
Increase/Decrease in appetite		
Weight gain (+ lbs)		
Weight loss (+ lbs)		
Ringing in the ears		
Toothaches		
Other:		

ASSESSMENT



PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ DATE: _____

Over the *last 2* weeks, how often have you been bothered by any of the following problems? (use "√" to indicate your answer)

	not at all	several days	more than half the days	nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3
add columns:		+	+	+
(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scientific article.)		TOTAL:		

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

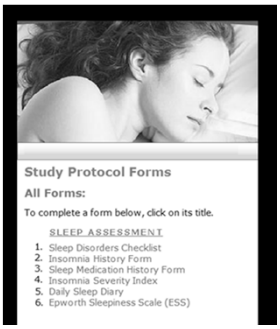
- Not difficult at all
- Somewhat difficult
- Very difficult
- Extremely difficult

ASSESSMENT

GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems? *(Use "0" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

ASSESSMENT



ASSESSMENT

SOS-CL-25 (V3)

ON-GOING DEVELOPMENT KLINGMAN, JUNGQUIST & PERLIS

ASSESSMENT

Insomnia History Form

Subject ID#_____ Date: _____

1. How old were you when you first starting experiencing insomnia? _____
2. How many years ago did you start experiencing insomnia? _____
3. How old were you when the insomnia became chronic? _____
4. How long have you had insomnia? _____
4. Since you have been experiencing insomnia have there been any periods of time that you have not had insomnia for 2 or more weeks at a time? _____

_____

_____

_____

ASSESSMENT

Sleep Medication History Form

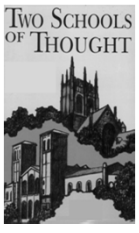
Please include all:

- **Rx** medications that have ever been taken
- **OTC** medications that have ever been taken

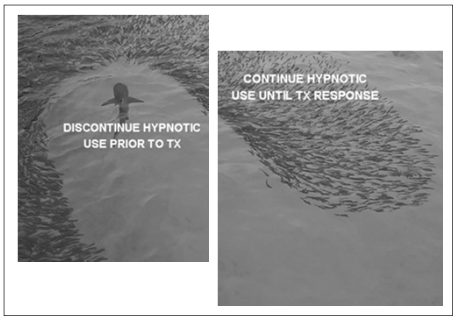
Medication	Ever Used	Start Date (or estimate)	Stop Date (or ongoing)	Effectiveness Rating Scale
Ambien/Zolpidem	Yes / No			Select rating
Ambien CR/Zolpidem Ext. R	Yes / No			Select rating
Dalmane/Flurazepam	Yes / No			Select rating
Doral/Quazepam	Yes / No			Select rating
Halcion/Triazolam	Yes / No			Select rating
Lunesta/Eszopiclone	Yes / No			Select rating
Prosom/Estazolam	Yes / No			Select rating
Restoril/Temazepam	Yes / No			Select rating
Rozerem/Ramelteon	Yes / No			Select rating
Sonata/Zaleplon	Yes / No			Select rating
Melatonin	Yes / No			Select rating
Unisom	Yes / No			Select rating
Benadryl	Yes / No			Select rating
	Yes / No			Select rating
	Yes / No			Select rating
	Yes / No			Select rating
	Yes / No			Select rating
	Yes / No			Select rating

submit cancel

WHAT TO DO ABOUT HYPNOTIC USE



TWO SCHOOLS OF THOUGHT



IF HYPNOTICS WERE WORKING… THE PATIENT WOULD NOT BE SEEKING HELP

BETTER A SETBACK NOW THAN AFTER TX GAINS

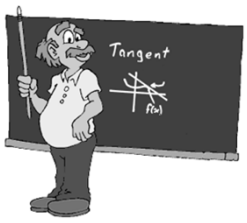
WORSENING UPFRONT SETS UP QUICKER AND LARGE TX GAINS

COLLABORATE WITH PRESCRIBING CLINICIAN

POSSIBLE DISCONTINUATION SCHEDULE

WEEK 1	**7 days ½ dose**
WEEK 2	**7 days every other day ½ dose**
WEEK 3	**2 days (Fixed) ½ dose**
WEEK 4	**2ND Baseline week**

VERY CONSERVATIVE



BACK TO ASSESSMENT

ASSESSMENT

Insomnia Severity Index (ISI)

Name: _____ **Date:** _____

1. Please rate the current (i.e., last week) **SEVERITY** of your insomnia problem(s).

	None	Mild	Moderate	Severe	Very
Difficulty falling asleep:	0	1	2	3	4
Difficulty staying asleep:	0	1	2	3	4
Problem waking up too early:	0	1	2	3	4

2. How **SATISFIED**/dissatisfied are you with your current sleep pattern?

Very Satisfied				Very Dissatisfied
0	1	2	3	4

3. To what extent do you consider your sleep problem to **INTERFERE** with your daily functioning (e.g. daytime fatigue, ability to function at work/daily chores, concentration, memory, mood, etc.)

Not at all Interfering	A Little	Somewhat	Much	Very Much Interfering
0	1	2	3	4

4. How **NOTICEABLE** to others do you think your sleeping problem is in terms of impairing the quality of your life?

Not at all Noticeable	Barely	Somewhat	Much	Very Much Noticeable
0	1	2	3	4

5. How **WORRIED**/distressed are you about your current sleep problem?

Not at all	A Little	Somewhat	Much	Very Much
0	1	2	3	4

Morin, C.M. (1993). Insomnia: Psychological Assessment and Management. New York: Guilford Press.

ASSESSMENT

THE EPWORTH SLEEPINESS SCALE

Name: _____

Today's Date: _____

Your sex (male = M, female = F) _____

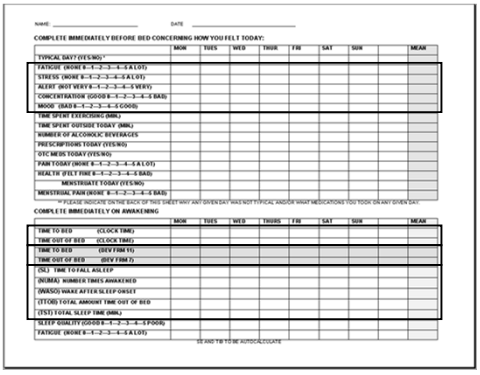
How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired? This refers to your usual way of living in recent times. Even if you haven't done some of these things recently try to work out how they would have affected you. Use the following scale to choose the *most appropriate number* for each situation:

0 = would never doze
1 = slight chance of dozing
2 = moderate chance of dozing
3 = high chance of dozing

Situation	Chance of Dozing
Sitting and reading	
Watching TV	
Sitting, inactive in a public place (e.g. a theatre or a meeting)	
As a passenger in a car for an hour without a break	
Lying down to rest in the afternoon when circumstances permit	
Sitting and talking to someone	
Sitting quietly after a lunch without alcohol	
In a car, while stopped for a few minutes in the traffic	

Thank you for your cooperation

ASSESSMENT



NAME: _____ DATE _____

COMPLETE IMMEDIATELY BEFORE BED CONCERNING HOW YOU FELT TODAY:

	MON	TUES	WED	THUR	FRI	SAT	SUN		MEAN
TYPICAL DAY? (YES/NO) *									
FATIGUE (NONE 0—1—2—3—4—5 A LOT)									
STRESS (NONE 0—1—2—3—4—5 A LOT)									
ALERT (NOT VERY 0—1—2—3—4—5 VERY)									
CONCENTRATION (GOOD 0—1—2—3—4—5 BAD)									
MOOD (BAD 0—1—2—3—4—5 GOOD)									
TIME SPENT EXERCISING (MIN.)									
TIME SPENT OUTSIDE TODAY (MIN.)									
NUMBER OF ALCOHOLIC BEVERAGES									
PRESCRIPTIONS TODAY (YES/NO)									
OTC MEDS TODAY (YES/NO)									
PAIN TODAY (NONE 0—1—2—3—4—5 A LOT)									
HEALTH (FELT FINE 0—1—2—3—4—5 BAD)									
MENSTRUATE TODAY (YES/NO)									
MENSTRUAL PAIN (NONE 0—1—2—3—4—5 BAD)									

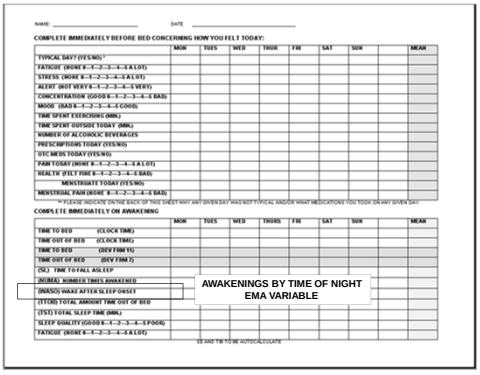
* PLEASE INDICATE ON THE BACK OF THIS SHEET WHY ANY GIVEN DAY WAS NOT TYPICAL AND/OR WHAT MEDICATIONS YOU TOOK ON ANY GIVEN DAY.

COMPLETE IMMEDIATELY ON AWAKENING

	MON	TUES	WED	THURS	FRI	SAT	SUN		MEAN
TIME TO BED (CLOCK TIME)									
TIME OUT OF BED (CLOCK TIME)									
TIME TO BED (DEV FRM 11)									
TIME OUT OF BED (DEV FRM 7)									
(SL) TIME TO FALL ASLEEP									
(NUMA) NUMBER TIMES AWAKENED									
(WASO) WAKE AFTER SLEEP ONSET									
(TTOB) TOTAL AMOUNT TIME OUT OF BED									
(TST) TOTAL SLEEP TIME (MIN.)									
SLEEP QUALITY (GOOD 0—1—2—3—4—5 POOR)									
FATIGUE (NONE 0—1—2—3—4—5 A LOT)									

SE AND TB TO BE AUTOCALCULATE

ASSESSMENT



NAME: _____ DATE _____

COMPLETE IMMEDIATELY BEFORE BED CONCERNING HOW YOU FELT TODAY:

	MON	TUES	WED	THUR	FRI	SAT	SUN		MEAN
TYPICAL DAY? (YES/NO) *									
FATIGUE (NONE 0—1—2—3—4—5 A LOT)									
STRESS (NONE 0—1—2—3—4—5 A LOT)									
ALERT (NOT VERY 0—1—2—3—4—5 VERY)									
CONCENTRATION (GOOD 0—1—2—3—4—5 BAD)									
MOOD (BAD 0—1—2—3—4—5 GOOD)									
TIME SPENT EXERCISING (MIN.)									
TIME SPENT OUTSIDE TODAY (MIN.)									
NUMBER OF ALCOHOLIC BEVERAGES									
PRESCRIPTIONS TODAY (YES/NO)									
OTC MEDS TODAY (YES/NO)									
PAIN TODAY (NONE 0—1—2—3—4—5 A LOT)									
HEALTH (FELT FINE 0—1—2—3—4—5 BAD)									
MENSTRUATE TODAY (YES/NO)									
MENSTRUAL PAIN (NONE 0—1—2—3—4—5 BAD)									

* PLEASE INDICATE ON THE BACK OF THIS SHEET WHY ANY GIVEN DAY WAS NOT TYPICAL AND/OR WHAT MEDICATIONS YOU TOOK ON ANY GIVEN DAY.

COMPLETE IMMEDIATELY ON AWAKENING

	MON	TUES	WED	THURS	FRI	SAT	SUN		MEAN
TIME TO BED (CLOCK TIME)									
TIME OUT OF BED (CLOCK TIME)									
TIME TO BED (DEV FRM 11)									
TIME OUT OF BED (DEV FRM 7)									
(SL) TIME TO FALL ASLEEP									
(NUMA) NUMBER TIMES AWAKENED									
(WASO) WAKE AFTER SLEEP ONSET									
(TTOB) TOTAL AMOUNT TIME OUT OF BED									
(TST) TOTAL SLEEP TIME (MIN.)									
SLEEP QUALITY (GOOD 0—1—2—3—4—5 POOR)									
FATIGUE (NONE 0—1—2—3—4—5 A LOT)									

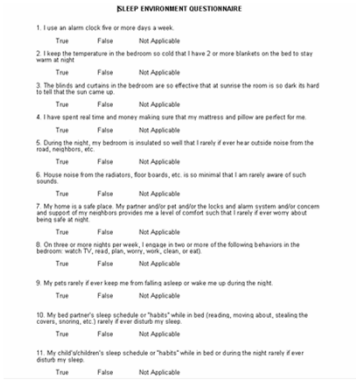
SE AND TB TO BE AUTOCALCULATE

AWAKENINGS BY TIME OF NIGHT
EMA VARIABLE

ASSESSMENT

LAB STORY

ASSESSMENT



SLEEP ENVIRONMENT QUESTIONNAIRE

1. I use an alarm clock five or more days a week.
True False Not Applicable

2. I keep the temperature in the bedroom so cold that I have 2 or more blankets on the bed to stay warm at night
True False Not Applicable

3. The blinds and curtains in the bedroom are so effective that at sunrise the room is so dark its hard to tell that the sun came up.
True False Not Applicable

4. I have spent real time and money making sure that my mattress and pillow are perfect for me.
True False Not Applicable

5. During the night, my bedroom is insulated so well that I rarely if ever hear outside noise from the road, neighbors, etc.
True False Not Applicable

6. House noise from the radiators, floor boards, etc. is so minimal that I am rarely aware of such sounds.
True False Not Applicable

7. My home is a safe place. My partner and/or pet and/or the locks and alarm system and/or concern and support of my neighbors provides me a level of comfort such that I rarely if ever worry about being safe at night.
True False Not Applicable

8. On three or more nights per week, I engage in two or more of the following behaviors in the bedroom: watch TV, read, plan, worry, work, clean, or eat).
True False Not Applicable

9. My pets rarely if ever keep me from falling asleep or wake me up during the night.
True False Not Applicable

10. My bed partner's sleep schedule or "habits" while in bed (reading, moving about, stealing the covers, snoring, etc.) rarely if ever disturb my sleep.
True False Not Applicable

11. My child's/children's sleep schedule or "habits" while in bed or during the night rarely if ever disturb my sleep.
True False Not Applicable

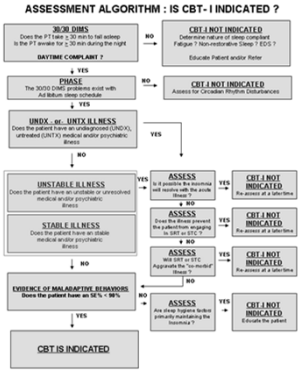
WHO IS A GOOD CANDIDATE FOR CBT- I ?

DO A MOCK PROFILE

AGE, SEX,
PRESENTING COMPLAINT
ASSOCIATED BEHAVIORAL FACTORS
MED, PSYCH, SUBSTANCE USE
KNOWN SLEEP DX, SUSPECTED SLEEP DX

WHO IS A GOOD CANDIDATE FOR CBT- I ?

ASSESSMENT ALGORITHM : IS CBT- I INDICATED ?



SESSION-1 "TO DO LIST"

Tasks	
Introduce yourself to the patient	✓
Complete Intake Questionnaires	✓
Conduct Clinical Interview	✓
Determine if patient is a candidate for CBT-I.	✓
Determine other treatment options	✓
Present An Overview of Treatment Options	
Orient Patient to the Sleep Diary (and actigraph)	
Field Patient Questions & Address Resistances	
Setting the Weekly Agenda	

TREATMENT
OPTIONS/PROCESS

THE PATIENT NEEDS TO KNOW THE PLAN

1 WEEK OF BASELINE AND WHY (SANS CLOCK)

THAT THEY WILL DECIDE NEXT WEEK WHAT TX

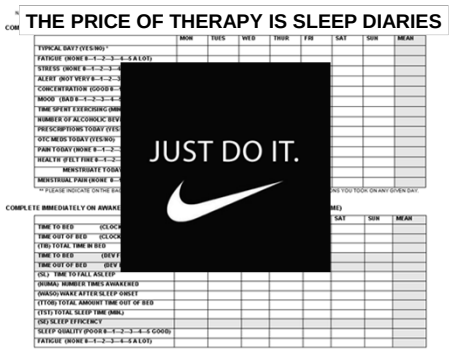
OPTIONS
DELAY TREATMENT
BEGIN TREATMENT WITH SLEEP MEDS
BEGIN TREATMENT BY D/C SLEEP MEDS

IN THE BAG
SLEEP COMPRESSION, THE ISR PROCEDURE,
BRIGHT LIGHT, RELAXATION TRAINING,
CBT+M, MEDS ALONE

SESSION-1 "TO DO LIST"

Tasks	
Introduce yourself to the patient	✓
Complete Intake Questionnaires	✓
Conduct Clinical Interview	✓
Determine if patient is a candidate for CBT-I.	✓
Determine other treatment options	✓
Present An Overview of Treatment Options	✓
Orient Patient to the Sleep Diary (and actigraph)	
Field Patient Questions & Address Resistances	
Setting the Weekly Agenda	

ASSESSMENT



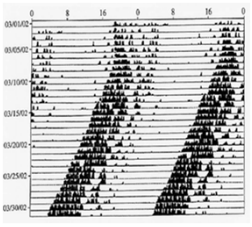
ASSESSMENT

ACTIGRAPHY

ASSESSMENT

ACTIGRAPHY

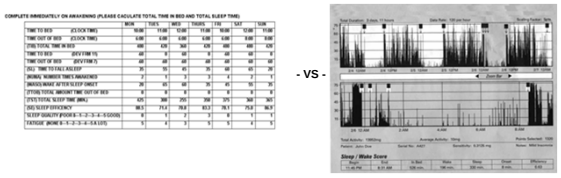
CIRCADIAN DISTURBANCES



ASSESSMENT

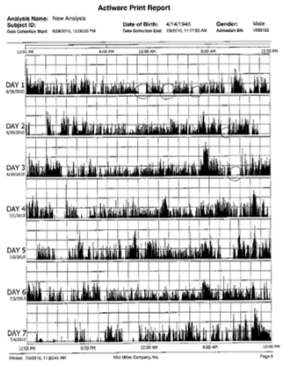
ACTIGRAPHY

SUB-OB DETECTION

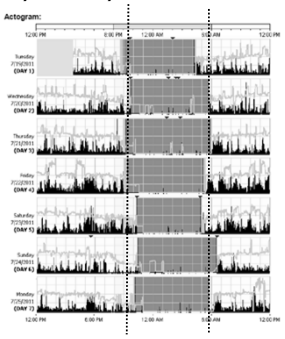


- VS -

SOMETIMES IT IS AS THEY SAY



LIGHT, REST, TIB AND SLEEP



ISSUES: ACTIVITY LEVEL – LIGHT LEVELS

ASSESSMENT

ACTIGRAPHY

COMPLIANCE

THE NANNY CAM EFFECT

SESSION-1 "TO DO LIST"

Tasks	
Introduce yourself to the patient	✓
Complete Intake Questionnaires	✓
Conduct Clinical Interview	✓
Determine if patient is a candidate for CBT-I.	✓
Determine other treatment options	✓
Present An Overview of Treatment Options	✓
Orient Patient to the Sleep Diary (and actigraph)	✓
Field Patient Questions & Address Resistances	
Setting the Weekly Agenda	

QUESTIONS & RESISTANCES

WHY DO I HAVE TO WAIT A WEEK TO START TX ?

CAN WE DO A PART OF TX THIS WEEK ?

WHY CAN'T I CONTINUE MY SLEEP MEDICATION ?

CAN YOU AT LEAST EXPLAIN WHAT TX WILL BE ?

AREN'T I SUPPOSED TO GET A SLEEP STUDY ?

WHY AM I NOT SEEING A REAL DOCTOR ?

SESSION-1 "TO DO LIST"

Tasks	
Introduce yourself to the patient	✓
Complete Intake Questionnaires	✓
Conduct Clinical Interview	✓
Determine if patient is a candidate for CBT-I.	✓
Determine other treatment options	✓
Present An Overview of Treatment Options	✓
Orient Patient to the Sleep Diary (and actigraph)	✓
Field Patient Questions & Address Resistances	✓
Setting the Weekly Agenda	

WEEKLY AGENDA

NEXT WEEK

REVIEW YOUR SLEEP DIARY DATA

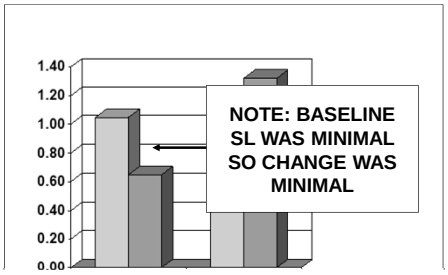
DECIDE IF YOU WISH TO PURSUE TX

IF YES
CHART YOUR SLEEP DIARY DATA
SELECT TX APPROACH
BEGIN TX PROCESS

BREAK

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

CBT-I FOR INSOMNIA IN PATIENTS WITH MAJOR DEPRESSION



	SL-Pre	SL-Post	WASO-Pre	WASO-Post
Escit + CBT-I	38.07(24.14)	21.28(22.20)	111.03(63.56)	47.56(57.61)
Escit + Ctrl	44.77(51.02)	33.65(33.53)	103.37(59.10)	61.87(57.71)

ANY FINDINGS BESIDES DEPRESSION ?

Sleep Medicine

The efficacy of cognitive-behavioral therapy for insomnia in patients with chronic pain

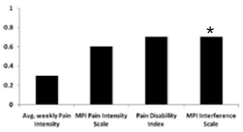


Fig. 3. Pre–post between group effect sizes for measures of pain.

Day 3:

Conducting CBT-I

Session 2 (Treatment)

INSOMNIA

SESSION 2 – TREATMENT

SESSION – 2 TREATMENT INITIATION

Session Two (Treatment Initiation: 60-120 min.)

Tasks
Summarize & Graph Sleep Diary
Determine Treatment Plan
Review Sleep Diary Data – "mismatch"
Introduce Behavioral Model of Insomnia
Setting up Sleep Restriction and Stimulus Control
Set Prescription (TIB & TOB)
Set Strategy How to stay awake to the prescribed hour What to do with WASO time

"WHAT ARE WE GOING TO DO TODAY?"
THE SAME THING AS EVERY DAY ... !

WHAT IS IT THEY DO EVERY DAY ?
WHO ARE THEY ?

SESSION – 2 TREATMENT INITIATION

Tasks
Summarize & Graph Sleep Diary
Determine Treatment Plan
Review Sleep Diary Data – "mismatch"
Introduce Behavioral Model of Insomnia
Setting up Sleep Restriction and Stimulus Control
Set Prescription (TIB & TOB)
Set Strategy How to stay awake to the prescribed hour What to do with WASO time

SESSION – 2 TREATMENT INITIATION
CALCULATE MEAN SLEEP CONTINUITY

COMPLETE IMMEDIATELY ON AWAKENING (PLEASE CACULATE TOTAL TIME IN BED AND TOTAL SLEEP TIME)

	MON	TUES	WED	THURS	FRI	SAT	SUN
TIME TO BED (CLOCK TIME)	10:00	11:00	12:00	11:00	10:00	12:00	11:00
TIME OUT OF BED (CLOCK TIME)	6:00	6:00	6:00	6:00	6:00	8:00	8:00
(TIB) TOTAL TIME IN BED	480	420	360	420	480	480	420
TIME TO BED (DEV FRM 11)	60	0	60	0	60	60	0
TIME OUT OF BED (DEV FRM 7)	60	60	60	60	60	60	60
(SL) TIME TO FALL ASLEEP	35	55	45	35	60	65	20
(NUMA) NUMBER TIMES AWAKENED	2	1	3	3	4	2	1
(WASO) WAKE AFTER SLEEP ONSET	20	65	60	35	45	55	35
(TTOB) TOTAL AMOUNT TIME OUT OF BED	0	0	0	0	0	0	0
(TST) TOTAL SLEEP TIME (MIN.)	425	300	255	300	375	360	365
(SE) SLEEP EFFICENCY	88.5	71.4	70.8	83.3	78.1	75.0	86.9
SLEEP QUALITY (POOR 0—1—2—3—4—5 GOOD)	0	1	2	3	0	1	1
FATIGUE (NONE 0—1—2—3—4—5 A LOT)	5	4	3	5	5	4	5

PAPER DIARIES & EXCEL vs. PDAs, I-PHONE APPS, AND INTERNET DIARIES.

THE UTILITY OF THE DIARY RITUAL.

THE VALUE OF ANCHORED TIME.

	MEAN
TIME TO BED (CLOCK TIME)	~ 11 PM
TIME OUT OF BED (CLOCK TIME)	~ 6:30 AM
(TIB) TOTAL TIME IN BED	437.1
TIME TO BED (DEV FRM 11)	0.0
TIME OUT OF BED (DEV FRM 7)	-25.7
(SL) TIME TO FALL ASLEEP	45.0
(NUMA) NUMBER TIMES AWAKENED	2.3
(WASO) WAKE AFTER SLEEP ONSET	45.0
(TTOB) TOTAL AMOUNT TIME OUT OF BED	0.0
(TST) TOTAL SLEEP TIME (MIN.)	347.1
(SE) SLEEP EFFICENCY	79.2
SLEEP QUALITY (POOR 0—1—2—3—4—5 GOOD)	1.1
FATIGUE (NONE 0—1—2—3—4—5 A LOT)	4.4

SESSION – 2 TREATMENT INITIATION
ASSESS COMPLIANCE

COMPLETE IMMEDIATELY ON AWAKENING (PLEASE CACULATE TOTAL TIME IN BED AND TOTAL SLEEP TIME)

	MON	TUES	WED	THURS	FRI	SAT	SUN
TIME TO BED (CLOCK TIME)	10:00	11:00	12:00	11:00	10:00	12:00	11:00
TIME OUT OF BED (CLOCK TIME)	6:00	6:00	6:00	6:00	6:00	8:00	8:00
(TIB) TOTAL TIME IN BED	480	420	360	420	480	480	420
TIME TO BED (DEV FRM 11)	60	0	60	0	60	60	0
TIME OUT OF BED (DEV FRM 7)	60	60	60	60	60	60	60
(SL) TIME TO FALL ASLEEP	35	55	45	35	60	65	20
(NUMA) NUMBER TIMES AWAKENED	2	1	3	3	4	2	1
(WASO) WAKE AFTER SLEEP ONSET	20	65	60	35	45	55	35
(TTOB) TOTAL AMOUNT TIME OUT OF BED	0	0	0	0	0	0	0
(TST) TOTAL SLEEP TIME (MIN.)	425	300	255	300	375	360	365
(SE) SLEEP EFFICENCY	88.5	71.4	70.8	83.3	78.1	75.0	86.9
SLEEP QUALITY (POOR 0—1—2—3—4—5 GOOD)	0	1	2	3	0	1	1
FATIGUE (NONE 0—1—2—3—4—5 A LOT)	5	4	3	5	5	4	5

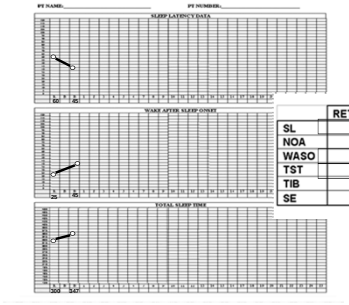
SRT - TTB AND TOB COMPLIANCE
STC - WASO IN/OUT COMPLIANCE

KNOW WHEN TO
"HOLD THEM"
"FOLD"

	MEAN
TIME TO BED (CLOCK TIME)	~ 11 PM
TIME OUT OF BED (CLOCK TIME)	~ 6:30 AM
(TIB) TOTAL TIME IN BED	437.1
TIME TO BED (DEV FRM 11)	0.0
TIME OUT OF BED (DEV FRM 7)	-25.7
(SL) TIME TO FALL ASLEEP	45.0
(NUMA) NUMBER TIMES AWAKENED	2.3
(WASO) WAKE AFTER SLEEP ONSET	45.0
(TTOB) TOTAL AMOUNT TIME OUT OF BED	0.0
(TST) TOTAL SLEEP TIME (MIN.)	347.1
(SE) SLEEP EFFICENCY	79.2
SLEEP QUALITY (POOR 0—1—2—3—4—5 GOOD)	1.1
FATIGUE (NONE 0—1—2—3—4—5 A LOT)	4.4

SESSION – 2 TREATMENT INITIATION

GRAPH MEAN SLEEP CONTINUITY



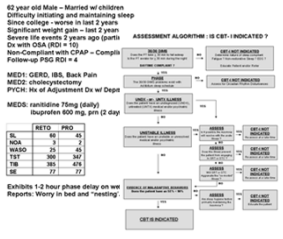
	RETO	PRO
SL	60	45
NOA	3	2
WASO	25	45
TST	300	347
TIB	385	476
SE	77	77

SESSION – 2 TREATMENT INITIATION

Tasks
Summarize & Graph Sleep Diary
Determine Treatment Plan
Review Sleep Diary Data – "mismatch"
Introduce Behavioral Model of Insomnia
Setting up Sleep Restriction and Stimulus Control
Set Prescription (TIB & TOB)
Set Strategy How to stay awake to the prescribed hour What to do with WASO time

SESSION – 2 TREATMENT INITIATION

CBT-I IS INDICATED – NOW WHAT ?



	RETO	PRO
SL	60	45
NOA	3	2
WASO	25	45
TST	300	347
TIB	385	476
SE	77	77

A COLD CALL APPROACH TO SETTING TIB

SESSION – 2 TREATMENT INITIATION

Tasks
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Determine Treatment Plan
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Introduce Behavioral Model of Insomnia
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Set Prescription (TIB & TOB)
Set Strategy How to stay awake to the prescribed hour What to do with WASO time

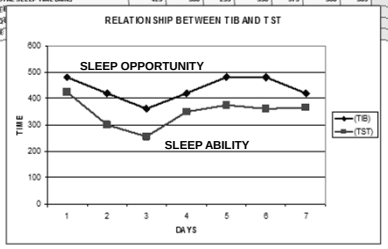
LET THE DATA SPEAK FOR ITSELF

REVEALING THE MISMATCH

SESSION – 2 TREATMENT INITIATION

COMPLETE IMMEDIATELY ON AWAKENING (PLEASE CACULATE TOTAL TIME IN BED AND TOTAL SLEEP TIME)]

	MON	TUES	WED	THURS	FRI	SAT	SUN	MEAN
TIME TO BED (CLOCK TIME)	10:00	11:00	12:00	11:00	10:00	12:00	11:00	~ 11 PM
TIME OUT OF BED (CLOCK TIME)	6:00	6:00	6:00	6:00	6:00	8:00	8:00	~ 6:30 AM
(TIB) TOTAL TIME IN BED	480	420	360	420	480	480	420	437.1
TIME TO BED (DEV FRM 1)	-60	0	60	0	-60	60	0	0.0
TIME OUT OF BED (DEV FRM 7)	-60	-60	-60	-60	-60	60	60	-25.7
(SL) TIME TO FALL ASLEEP	35	55	45	35	60	65	20	45.0
(NUMA) NUMBER TIMES AWAKENED	2	1	3	3	4	2	1	2.3
(WASO) WAKE AFTER SLEEP ONSET	20	65	60	35	45	55	35	45.0
(TTOB) TOTAL AMOUNT TIME OUT OF BED	0	0	0	0	0	0	0	0.0
(TST) TOTAL SLEEP TIME (MIN.)	425	300	255	350	375	360	365	347.1
(SE) SLE								79.2
SLEEP QU								1.1
FATIGUE								4.4



SESSION – 2 TREATMENT INITIATION

Tasks
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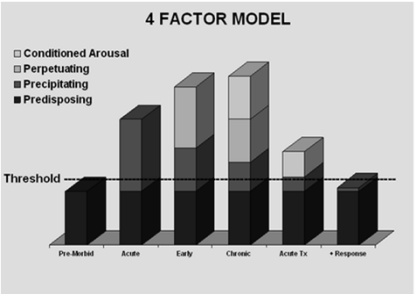
SESSION – 2 TREATMENT INITIATION

DRAW THIS ON THE WHITE BOARD



EXAMPLE

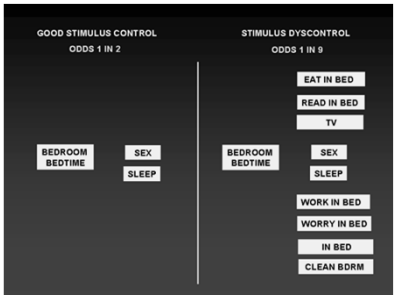
SESSION – 2 TREATMENT INITIATION

EXPLAIN THE MODEL – USE EXAMPLES FROM PATIENT'S HX

NOTE: SOAP BOX

SESSION – 2 TREATMENT INITIATION

DRAW THIS ON THE WHITE BOARD



NOTE: THIS DIFFERS FROM THE MANUAL !

SESSION – 2 TREATMENT INITIATION

EXPLAIN THE MODEL – CHANGING THE ODDS

NOTE: SOAP BOX

SESSION – 2 TREATMENT INITIATION

A 2ND WAY OF THINKING ABOUT STIMULUS CONTROL

THE SINGLE GUY EXAMPLE

SESSION – 2 TREATMENT INITIATION

A 2ND WAY OF THINKING ABOUT STIMULUS CONTROL

SESSION – 2 TREATMENT INITIATION

Tasks
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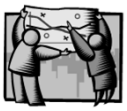
SESSION – 2 TREATMENT INITIATION

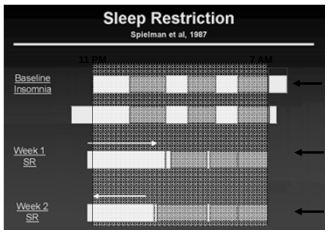


THE GOALS OF TREATMENT ARE TO

1. **ALIGN SLEEP ABILITY WITH SLEEP OPPORTUNITY**
2. **MAKE A PLAN FOR HOW TO STAY AWAKE TO THE PTIB**
3. **MAKE A PLAN RE: WHAT TO DO DURING STC**

A REVIEW OF SRT

SLEEP RESTRICTION



TST = 5 hrs TIB = 8.0 hrs SE% = 62.5

TST = 5 hrs TIB = 4.75 hrs SE% = 95.0

+ 15 Min. TIB = 5.25 hrs

- Restrict to the number of hours of sleep (≥ 4.0)**
- Keep rigid times
- Review ways to stay awake
- No clocks
- Keep diary
- Review expectations

** PCNA 1987:10(4),547.

SESSION – 2 TREATMENT INITIATION

Tasks
Summarize & Graph Sleep Diary
Determine Treatment Plan
Review Sleep Diary Data – "mismatch"
Introduce Behavioral Model of Insomnia
Setting up Sleep Restriction and Stimulus Control
Set Prescription (TIB & TOB)
Set Strategy
How to stay awake to the prescribed hour
What to do with WASO time

SESSION – 2 TREATMENT INITIATION

WHAT'S THE SRT PRESCRIPTION IN THIS CASE ?

REMEMBER THE FIRST QUESTION IS
"WHAT TIME DO YOU NEED TO START YOUR DAY ?"
(ASSUME 6:30AM AND ROUND TST LOW).

	MEAN
TIME TO BED (CLOCK TIME)	~ 11 PM
TIME OUT OF BED (CLOCK TIME)	~ 6:30 AM
(TIB) TOTAL TIME IN BED	437.1
TIME TO BED (DEV FRM 11)	0.0
TIME OUT OF BED (DEV FRM 7)	-25.7
(SL) TIME TO FALL ASLEEP	45.0
(NUMA) NUMBER TIMES AWAKENED	2.3
(WASO) WAKE AFTER SLEEP ONSET	45.0
(TOB) TOTAL AMOUNT TIME OUT OF BED	0.0
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FATIGUE (NONE 0—1—2—3—4—5 A LOT)	4.4

SESSION – 2 TREATMENT INITIATION

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SESSION – 2 TREATMENT INITIATION

ANYONE KNOW WHAT THIS IS CALLED
MAKE A "TO DO LIST"
PLAN HOW TO STAY UP
PLAN HOW TO GET UP

EXPECT
THINGS TO GET WORSE BEFORE THEY GET BETTER

THINGS TO DO WHEN YOU ARE AWAKE

In the evening:

- Choose clothes that you can wear for work or school the next day
- Make your lunch
- Marinate or start to prepare food for dinner the following day and store it in the refrigerator
- Take a bath or long shower
- Write thank you notes or short emails to friends
- Surf the internet (non-stressful topics only), do research for major purchases (cars, appliances, vacations)
- Watch movies or episodes of television shows that you haven't seen in a long time (no action films)
- Take the dog for a long walk
- Groom your pets
- Listen to slow, relaxing or instrumental music
- Gather old bills and statements and shred them
- Organize collections- photos, old letters, wine, books, or other items
- Catch up on laundry or folding clothes
- Polish your shoes
- Iron or mend clothing
- Write in your journal
- Do some stretches to relax your muscles
- Give yourself a pedicure, manicure or facial
- Sweep or mop the kitchen floor while no one else is there to walk on it
- Floss!
- Knit
- Quilt

THINGS TO DO WHEN YOU ARE AWAKE

- **During the night:**
- Look through catalogs
- Update your address books or start one online or on paper
- Sort out junk mail and bills (but don't pay bills)
- Play solitaire online or with cards at home
- Catch up on your reading
- Call friends who live in other time zones
- Clean out the refrigerator
- Make a grocery shopping list for the week
- Create a detailed menu for dinners
- De-clutter your coffee table, dining room table, kitchen countertops or desk
- Create a list of activities that you'd enjoy doing on weekends and vacations
- Work on photo albums or scrapbooks
- Fold clothes, put away clothes
- Shop for holiday, wedding or birthday gifts online
- Read magazines or other light material
- Make a materials list for a project around the house
- Choose one or two drawers to clean out (in your desk, kitchen, bathroom)
- Watch infomercials, C-SPAN, The Weather Channel, or other repetitive television shows
- Organize collections of CDs or DVDs and choose some to donate or sell if you no longer enjoy them
- Jot down thoughts on a notepad for an assigned period of time, if you are using this exercise to help decrease nighttime and bedtime thinking and worrying
- Knit or do other crafts that you can stop working on when you feel sleepy
- Read your kids' books- these are often very comforting and positive in their messages

THINGS TO DO WHEN YOU ARE AWAKE

Early in the morning:

- Meditate or pray
- Watch the sunrise
- Take the dog for a walk
- Read the newspaper or read the news online
- Go to your gym or workout at home
- Go to the grocery store or other stores that open early
- Make lunch for yourself and for everyone else in the house
- Enjoy being able to get ready for work and kids ready for school without having to rush
- Sort out some kids' toys and choose things for Goodwill or a yard sale
- Sort and start your laundry, iron shirts or other clothes for work
- Start a budget for your family on a spreadsheet or in a notebook
- Send emails to friends or check your work email
- Shred or erase old computer disks, DVDs, etc., and dump old data from folders on your computer
- Organize all of your bills, receipts, coupons and warranty information in a filing cabinet or folders
- Get some of the preparation started for dinner dishes (marinating, chopping vegetables, and so on)
- Make the bed and tidy up your bedroom Open the curtains and blinds in the house
- Sweep your sidewalk or steps, or shovel snow
- Do some light gardening or water houseplants or those around your porch
- Review your to-do list for the day or the week

QUESTIONS & RESISTANCES

I HAVE DONE STC & SRT BEFORE AND IT DIDN'T WORK

WAS IT SRT & STC ? (DELPINO)
WAS IT SYSTEMATIC ? (LADDER)

WHAT IF I GET TO INTO WHAT I'M DOING TO STAY AWAKE ?!

IF NOT TONIGHT THEN TOMORROW

SESSION – 2 TREATMENT INITIATION

NEXT WEEK

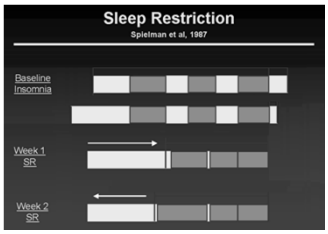
REVIEW YOUR SLEEP DIARY DATA

TITRATION, TROUBLE SHOOTING STC & SLEEP HYGIENE

BREAK

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

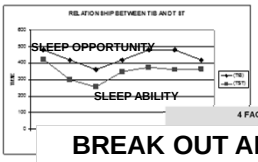
SLEEP RESTRICTION



WHY A DELAY vs TRUNCATION ?

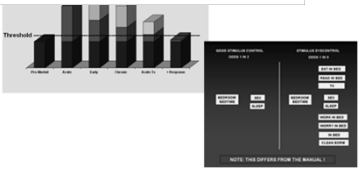
SESSION – 2 TREATMENT INITIATION

DRAW AND EXPLAIN THESE



4 FACTOR MODEL

BREAK OUT AND PRACTICE



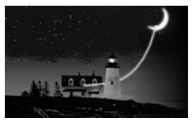
Day 3:

Conducting CBT-I

Session 3 (Treatment)

INSOMNIA

SESSION 3 – TREATMENT



“WHAT ARE WE GOING TO DO TODAY?”
THE SAME THING AS EVERY DAY … !

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains and Compliance
Determine If Upward Titration is Warranted
Review Sleep Hygiene

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains and Compliance
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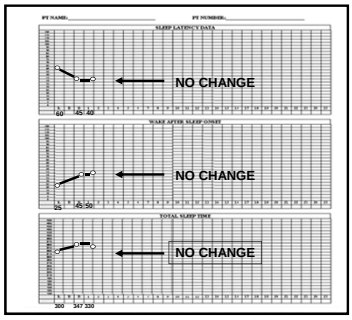
Review Sleep Hygiene

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

GRAPH MEAN SLEEP CONTINUITY – SCENARIO 1



NO CHANGE

GWEN COMPLAINS

DID THE PATIENT SLEEP RESTRICT ?

THEY SAID

“I DID”
“ I WANTED TO BUT COULDN’T”
“I DIDN’T WANT TO”

DID THE PATIENT PRACTICE STC ?

THEY SAID

“I DID”
“ I WANTED TO BUT COULDN’T”
“I DIDN’T WANT TO”

THEY SAID

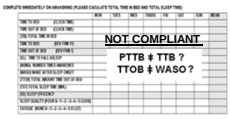
“I DID”

DOES THE DIARY REFLECT THIS ??

WAS THERE A DELAY IN TTB ?
WAS MOST OF THE WASO SPENT OUT OF BED ?

COMPLIANT
PTTB = TTB ?
TTOB = WASO ?

→ **ASSESS WHETHER SRT WAS POTENT ENOUGH**



NOT COMPLIANT
PTTB ≠ TTB ?
TTOB ≠ WASO ?

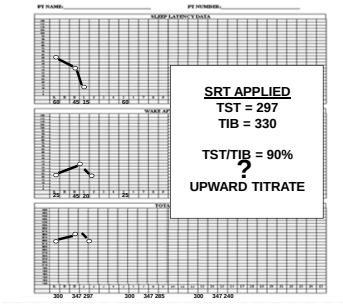
→ **REVIEW INSTRUCTIONS**
ASSESS OBSTACLES

DID THE PATIENT SLEEP RESTRICT ?
DID THE PATIENT PRACTICE STC ?

THEY SAID **" I WANTED TO BUT COULDN'T"**	→	**"NO PAIN NO GAIN"** **MAYBE DELAY TX ?**
THEY SAID **" I DIDN'T WANT TO"**	→	**DISCUSS DELAYING TX**

SESSION – 2 TREATMENT INITIATION

GRAPH MEAN SLEEP CONTINUITY – SCENARIO 1

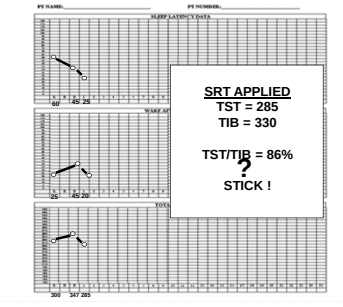


SRT APPLIED
TST = 297
TIB = 330

TST/TIB = 90%
?
UPWARD TITRATE

SESSION – 2 TREATMENT INITIATION

GRAPH MEAN SLEEP CONTINUITY – SCENARIO 2

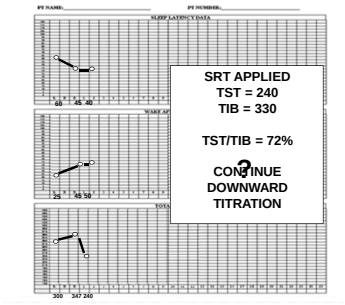


SRT APPLIED
TST = 285
TIB = 330

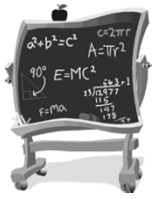
TST/TIB = 86%
?
STICK !

SESSION – 2 TREATMENT INITIATION

GRAPH MEAN SLEEP CONTINUITY – SCENARIO 3



THE CALCULATION OF SLEEP EFFICIENCY



THE PATIENT'S WAY

INSOMNIA = 1:51 A.M. + ETERNITY + 1:52 A.M. + ETERNITY + 1:53 A.M. + ETERNITY

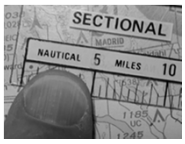
THE THERAPIST'S WAY

SE% = ([TST / TIB] * 100)

TIB = TOB – TTB
TIB = TST + (SL + WASO)

LET'S SPEND SOME TIME WITH THIS

THERE IS NO PERFECT RULE



RULE OF THUMB

For TIB whatever makes TIB bigger, provided the patient wanted/was trying to sleep.

in bed early: counts
in bed late - due to schedule: doesn't count

out of bed early - due to EMA: counts
out of bed early - due to schedule: doesn't count

For TST whatever makes TST smaller

time awake out of bed: counts

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains and Compliance
Determine if Upward Titration is Warranted
Review Sleep Hygiene

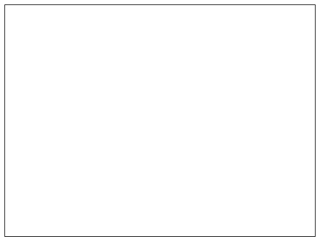
SLEEP HYGIENE IS NOT THE 10 COMMANDMENTS

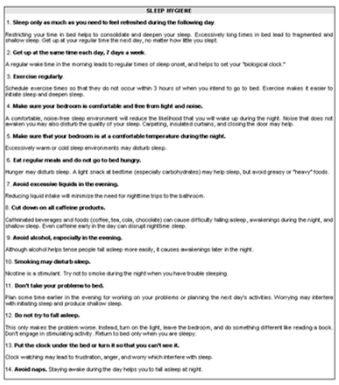
IT IS NOT EFFECTIVE AS A MONOTHERAPY
MANY OF ITS TENETS ARE UNTESTED
SEVERAL OF THE IMPERATIVES MAY BE "WRONG HEADED"

BEST TAILORED TO THE INDIVIDUAL
BEST USED TO HAVE PATIENT BETTER "GROK" SLEEP

INTRODUCING SLEEP HYGIENE
THE 30 SEC. VERSION

INTRODUCING SLEEP HYGIENE
THE 5 MINUTE VERSION





SLEEP HYGIENE

1. **Sleep only as much as you need to feel refreshed during the following day.**

Restricting your time in bed helps to consolidate and deepen your sleep. Excessively long times in bed lead to fragmented and shallow sleep. Get up at your regular time the next day, no matter how little you slept.

2. **Get up at the same time each day, 7 days a week.**

A regular wake time in the morning leads to regular times of sleep onset, and helps to set your "biological clock."

3. **Exercise regularly.**

Schedule exercise times so that they do not occur within 3 hours of when you intend to go to bed. Exercise makes it easier to initiate sleep and deepen sleep.

4. **Make sure your bedroom is comfortable and free from light and noise.**

A comfortable, noise-free sleep environment will reduce the likelihood that you will wake up during the night. Noise that does not awaken you may also disturb the quality of your sleep. Carpeting, insulated curtains, and closing the door may help.

5. **Make sure that your bedroom is at a comfortable temperature during the night.**

Excessively warm or cold sleep environments may disturb sleep.

6. **Eat regular meals and do not go to bed hungry.**

Hunger may disturb sleep. A light snack at bedtime (especially carbohydrates) may help sleep, but avoid greasy or "heavy" foods.

7. **Avoid excessive liquids in the evening.**

Reducing liquid intake will minimize the need for nighttime trips to the bathroom.

8. **Cut down on all caffeine products.**

Caffeinated beverages and foods (coffee, tea, cola, chocolate) can cause difficulty falling asleep, awakenings during the night, and shallow sleep. Even caffeine early in the day can disrupt nighttime sleep.

9. **Avoid alcohol, especially in the evening.**

Although alcohol helps tense people fall asleep more easily, it causes awakenings later in the night.

10. **Smoking may disturb sleep.**

Nicotine is a stimulant. Try not to smoke during the night when you have trouble sleeping.

11. **Don't take your problems to bed.**

Plan some time earlier in the evening for working on your problems or planning the next day's activities. Worrying may interfere with initiating sleep and produce shallow sleep.

12. **Do not try to fall asleep.**

This only makes the problem worse. Instead, turn on the light, leave the bedroom, and do something different like reading a book. Don't engage in stimulating activity. Return to bed only when you are sleepy.

13. **Put the clock under the bed or turn it so that you can't see it.**

Clock watching may lead to frustration, anger, and worry which interfere with sleep.

14. **Avoid naps.** Staying awake during the day helps you to fall asleep at night.

READER

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE
1. **Sleep only as much as you need to feel refreshed during the following day.**
Restricting your time in bed helps to consolidate and deepen your sleep. Excessively long times in bed lead to fragmented and shallow sleep. Get up at your regular time the next day, no matter how little you slept.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE
2. **Get up at the same time each day, 7 days a week.**
A regular wake time in the morning leads to regular times of sleep onset, and helps to set your "biological clock."

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

3. **Exercise regularly.**

Schedule exercise times so that they do not occur within 3 hours of when you intend to go to bed. Exercise makes it easier to initiate sleep and deepen sleep.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

4. **Make sure your bedroom is comfortable and free from light and noise.**

A comfortable, noise-free sleep environment will reduce the likelihood that you will wake up during the night. Noise that does not awaken you may also disturb the quality of your sleep. Carpeting, insulated curtains, and closing the door may help.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

5. **Make sure that your bedroom is at a comfortable temperature during the night.**

Excessively warm or cold sleep environments may disturb sleep.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

6. **Eat regular meals and do not go to bed hungry.**

Hunger may disturb sleep. A light snack at bedtime (especially carbohydrates) may help sleep, but avoid greasy or "heavy" foods.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

7. **Avoid excessive liquids in the evening.**

Reducing liquid intake will minimize the need for nighttime trips to the bathroom.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

8. **Cut down on all caffeine products.**

Caffeinated beverages and foods (coffee, tea, cola, chocolate) can cause difficulty falling asleep, awakenings during the night, and shallow sleep. Even caffeine early in the day can disrupt nighttime sleep.

A BIT OF HUMOR BEFORE DEBUNKING

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

9. **Avoid alcohol, especially in the evening.**

Although alcohol helps tense people fall asleep more easily, it causes awakenings later in the night.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

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SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

11. **Don't take your problems to bed.**

Plan some time earlier in the evening for working on your problems or planning the next day's activities. Worrying may interfere with initiating sleep and produce shallow sleep.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

"When I can't dismiss something from my mind, I just get up and write myself a little note. Then I can forget all about it."

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE
12. **Do not *try* to fall asleep.** This only makes the problem worse. Instead, turn on the light, leave the bedroom, and do something different like reading a book. Don't engage in stimulating activity. Return to bed only when you are sleepy.

"Sleep (is like) a dove which has landed near one's hand and stays there as long as one does not pay any attention to it; if one attempts to grab it, it quickly flies away"

Viktor E. Frankl (1965, p. 253) cited in Ansfield et al. Behav.Res.Ther. 1996;34:523-531

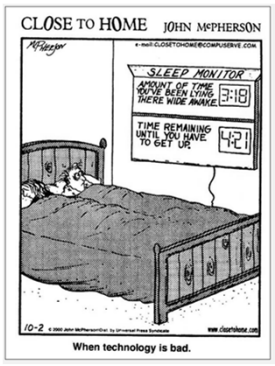
SLIDE PROVIDED BY COLIN ESPIE

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE
13. **Put the clock under the bed or turn it so that you can't see it.**
Clock watching may lead to frustration, anger, and worry which interfere with sleep.

I CAN'T RESIST SOME EXAMPLES HERE

GIFT IDEAS FOR PEOPLE YOU HATE WHO HAVE INSOMNIA



When technology is bad.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

14. **Avoid naps.** Staying awake during the day helps you to fall asleep at night.

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

SLEEP HYGIENE

1. **Sleep only as much as you need to feel refreshed during the following day.**

Restricting your time in bed helps to consolidate and deepen your sleep. Excessively long times in bed lead to fragmented and shallow sleep. Get up at your regular time the next day, no matter how little you slept.

2. **Get up at the same time each day, 7 days a week.**

A regular wake time in the morning leads to regular times of sleep onset, and helps to set your "biological clock."

3. **Exercise regularly.**

Schedule exercise times so that they do not occur within 3 hours of when you intend to go to bed. Exercise makes it easier to initiate sleep and deepen sleep.

4. **Make sure your bedroom is comfortable and free from light and noise.**

INTERESTING – NO WHERE IS THERE A MENTION OF NIGHT TIME LIGHT EXPOSURE

9. **Avoid alcohol, especially in the evening.**

Although alcohol helps tence people fall asleep more easily, it causes awakenings later in the night.

10. **Smoking may disturb sleep.**

Nicotine is a stimulant. Try not to smoke during the night when you have trouble sleeping.

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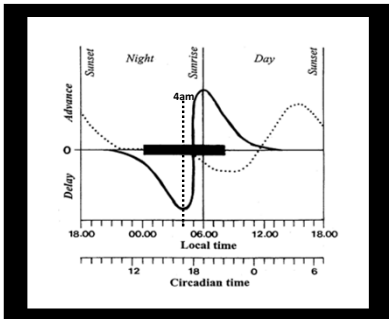
13. **Put the clock under the bed or turn it so that you can't see it.**

Clock watching may lead to frustration, anger, and worry which interfere with sleep.

14. **Avoid naps.** Staying awake during the day helps you to fall asleep at night.

WHAT ABOUT LIGHT EXPOSURE ?

THE PROBLEM



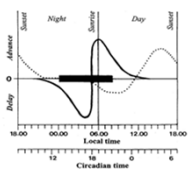
SLIDE PROVIDED BY SIGRID VEASEY

A SOLUTION

A SOLUTION

ANOTHER SOLUTION

ALL THIS SAID
MAYBE LIGHT'S NOT SUCH A PROBLEM



VS.

QUESTIONS & RESISTANCES

I JUST CAN'T STAY AWAKE UNTIL THE PRESCRIBED BEDTIME ?!

IRONY

I JUST CAN'T GET OUT OF BED

SLEEP OF REASON

SESSION – 3 POST FIRST WEEK OF ACTIVE TX

NEXT WEEK

REVIEW YOUR SLEEP DIARY DATA

TITRATION & TROUBLE SHOOTING

BREAK

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Day 3:

Conducting CBT-I

Session 4 (Treatment)

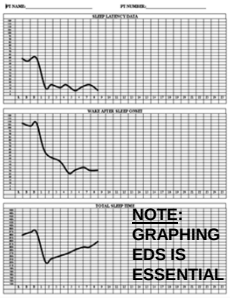
INSOMNIA

SESSION 4 – TREATMENT

“WHAT ARE WE GOING TO DO TODAY?”
THE SAME THING AS EVERY DAY … !

Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains and Compliance
Determine if upward Titration is warranted

GRAPH MEAN SLEEP CONTINUITY



NOTE: GRAPHING EDS IS ESSENTIAL

POSITIVE TREATMENT RESPONSE

GWEN HAS SUCCESS

TX NON-RESPONSE OR RESPONSE WITH AEs

I'M DOING BETTER – BUT I FEEL HORRIBLE DURING THE DAY !

POSSIBLE EXPLANATIONS

PT WAS COMPLIANT WITH A TOO SEVERE A SRT

OCCULT OSA OR PLMs ?
OCCULT MEDICAL OR PSYCHIATRIC ILLNESS ?

SUBSTANCE USE OR ABUSE

SLEEP STATE MISPERCEPTION

SLEEP STATE MISPERCEPTION
AKA
PARADOXICAL INSOMNIA

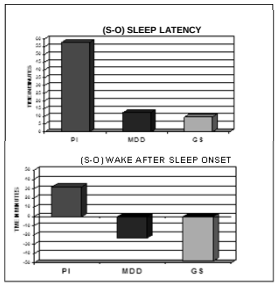
WHAT IS THIS ?!

AND

WHAT ARE THE IMPLICATIONS FOR CBT-I ?!

"SLEEP STATE MISPERCEPTION"

SUBJECTIVE-OBJECTIVE DISCREPANCY



"SLEEP STATE MISPERCEPTION"

SUBJECTIVE-OBJECTIVE DISCREPANCY

WHAT ARE THE IMPLICATIONS FOR CBT-I

UNKNOWN

OPTIONS

CONTINUE STANDARD CBT-I

CONTINUE STANDARD CBT-I WITH MODAFINIL

EXPERIMENT WITH THE ISR PROTOCOL

TRY SLEEP COMPRESSION

MEDICATION (BZs VS BZRAs)

SLEEP LAB BASED - FEEDBACK

20% REDUCTION OF TST REVERSES DISCREPANCY BETWEEN SUBJECTIVE AND EEG BASED TIMES TO FALL ASLEEP

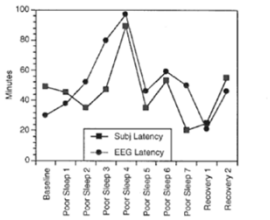
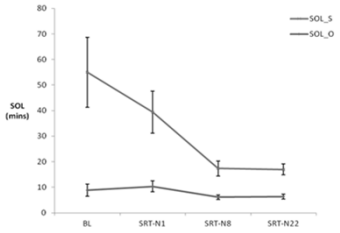


Figure 1.—Subjective and objective sleep-onset latency across the 10 nights of the experiment.

Bonnet & Arand 1998 Sleep 21(4) 359-368

INFORMATION PROVIDED IN VA SLIDES AND MANUALS OF CBT-I

Figure 2: Subjective and objective sleep-onset latency throughout treatment nights



Kyle, Espie et al. Personal Communication 2013

WHAT ARE THE IMPLICATIONS FOR CBT-I

UNKNOWN

<u>OPTIONS</u>

CONTINUE STANDARD CBT-I
RELAXATION TRAINING
DO A SEVERE FORM OF CBT-I WITH MODAFINIL
EXPERIMENT WITH THE ISR PROTOCOL
TRY SLEEP COMPRESSION
MEDICATION (BZs VS BZRAs)
SLEEP LAB BASED - FEEDBACK

SLEEP COMPRESSION PROTOCOL

Relaxation and Sleep Compression for Late-Life Insomnia: A Placebo-Controlled Trial

Kenneth L. Lichstein, University of Memphis and Methodist Healthcare of Memphis
Brant W. Riedel and Nancy M. Wilson, University of Memphis
Kristin W. Lester and R. Neal Aguillard, Methodist Healthcare of Memphis

Chapter 5

Sleep Compression

Kenneth L. Lichstein, S. Justin Thomas
Department of Psychology, University of Alabama, Tuscaloosa, AL
Susan M. McCurry
Department of Psychosocial and Community Health, University of Washington, Seattle, WA

PROTOCOL NAME

Sleep compression.

GROSS INDICATION

Sleep compression is ideal for those who exhibit sleep continuity disturbance but not substantial daytime deficits.

SPECIFIC INDICATION

Poor sleep accompanied by little daytime impairment suggests that enough sleep has been obtained to satisfy biologic need. Decreasing wake time in bed, not increasing sleep, becomes the primary therapeutic goal.

There is insufficient experience with this method to recommend its preferred use with a type of insomnia (e.g., primary vs comorbid, midlife vs late life) or with a particular pattern of wakefulness (e.g., onset vs maintenance). However, sleep compression does use an incremental approach to decreasing time in bed, as compared to abrupt contraction in the method of sleep restriction, and sleep compression may be better tolerated by individuals who are experiencing daytime fatigue or mild sleepiness, or who may be sensitive to abrupt alteration of their time in bed pattern.

CONTRAINDICATIONS

There are no serious contraindications for sleep compression. Temporary, increased daytime sleepiness that sometimes occurs with the introduction of the similar procedure of sleep restriction has not been observed with sleep compression.

55

DETERMINE AVERAGE SLEEP OPPORTUNITY AND SLEEP ABILITY USING 2 WEEKS OF DIARIES

DETERMINE THE DIFFERENCE BETWEEN TIB AND TST (DIFF)

DETERMINE AMOUNT OF SLEEP RESTRICTION (DIFF/ 5)

DELAY BEDTIME OR ADVANCE RISE TIME BY (DIFF/ 5) PER WEEK

TRACK SE% AND APPLY SRT TITRATION RULES

<u>QUESTIONS & RESISTANCES</u>

<u>I'M DOING BETTER – CAN WE STOP NOW ?</u>

BEST NOT TO.

<u>WILL I HAVE TO DO SRT AND STC FOREVER ?!</u>

YES AND NO.

NOTHING IS CERTAIN IN THIS WORLD
BUT DEATH, TAXES, AND STIMULUS CONTROL

NEXT WEEK

REVIEW YOUR SLEEP DIARY DATA

TITRATION & TROUBLE SHOOTING

COGNITIVE THERAPY

BREAK

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

Day 3:

Conducting CBT-I

Sessions 6-8 (Treatment)

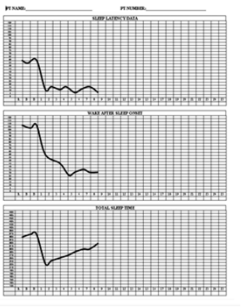
INSOMNIA

SESSION 6 & 7 & 8 – TREATMENT

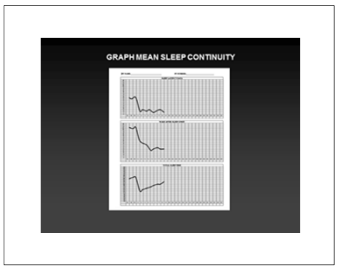
“WHAT ARE WE GOING TO DO TODAY?”
THE SAME THING AS EVERY DAY … !

Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains (Globally)
Discuss Relapse Prevention

GRAPH MEAN SLEEP CONTINUITY



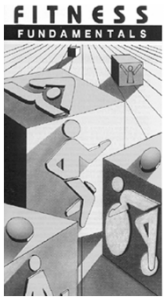
SUCCESS !!!!



GWEN RE-CAP

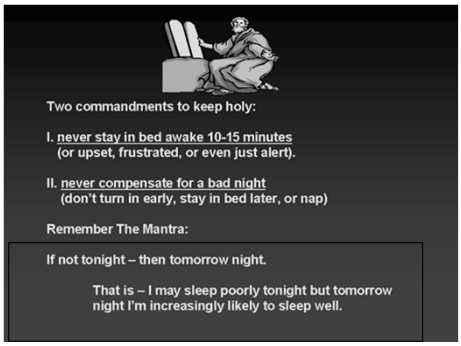
Tasks
Summarize & Graph Sleep Diary
Discuss Relapse Prevention

Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains (Globally)
Discuss Relapse Prevention



MAINTENANCE

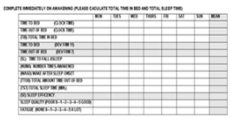
- **Relapse is not one night**
- **If you've been sleeping well the insomnia may be "a call to arms"**
- **If insomnia returns, "restrict and control"**
- **Shoot for 5/7 nights**



"IF NOT TONIGHT THEN TOMOROW NIGHT" !?

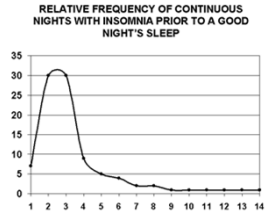
IS IT THE CASE THAT PATIENTS WITH INSOMNIA EXPERIENCE GOOD SLEEP ON SOME REGULAR BASIS ?

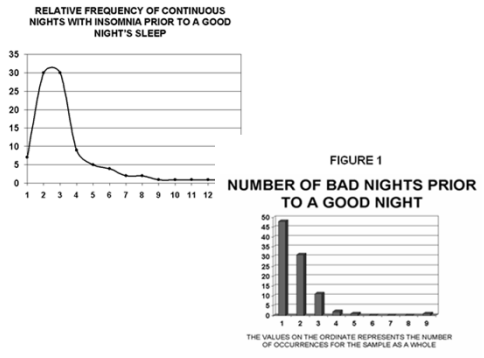
IF YES, THEN <u>WHY</u> AND ON WHAT <u>SCHEDULE</u> ?



→

PATTERN
BGGBGGB
BGBGBGB
BBGBBGB
BBBGBBB



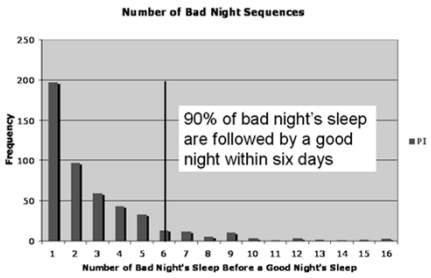


SO ONE COULD SAY THAT

"BETTER THAN AVERAGE SLEEP OCCURS IN LESS THAN 3 DAYS TIME".

BETTER THAN AVERAGE IS ONE THING

WHAT ABOUT THE NUMBER OF DAYS TO AN ABSOLUTELY GOOD NIGHT ?



DATA FROM BEVERLY DAVID

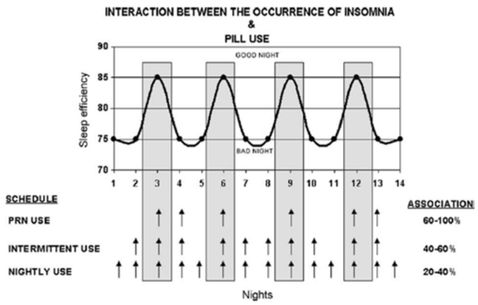
DATA ANALYSIS SWINX PHD THESIS

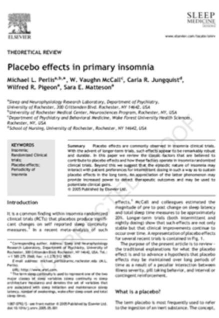
<u>"BUT WAIT - THERE'S MORE " !</u>

IF BETTER THAN AVERAGE SLEEP OCCURS AND DOES SO EVERY ~3 DAYS THEN WHAT EFFECT WOULD THIS HAVE ON RITUAL BEHAVIORS

AND

<u>USE OF PLACEBO !</u>





ELSEVIER

SLEEP MEDICINE

THEORETICAL REVIEW

Placebo effects in primary insomnia

Michael L. Perlis[a,b,*], W. Vaughn McCall[c], Carla R. Jungquist[d], Wilfred R. Pigeon[a], Sara E. Matteson[a]

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[b]University of Rochester Medical Center, Neurosciences Program, Rochester, NY, USA
[c]Department of Psychiatry and Behavioral Medicine, Wake Forest University Health Sciences, Rochester, NY, USA
[d]School of Nursing, University of Rochester, Rochester, NY 14642, USA

KEYWORDS
Insomnia;
Randomized Clinical trials;
Placebo effects;
Periodicity of insomnia

Summary Placebo effects are commonly observed in insomnia clinical trials. With the advent of longer-term trials, such effects appear to be remarkably robust and durable. In this paper we review the classic factors that are believed to contribute to placebo effects and how these factors operate in insomnia randomized clinical trials. Beyond this we suggest that the episodic nature of insomnia may interact with patient preferences for intermittent dosing in such a way as to sustain placebo effects in the long term. An appreciation of the latter phenomenon may provide increased power to detect therapeutic outcomes and may be used to potentiate clinical gains.
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PRETTY NIFTY EH ??

SO NOW YOU KNOW

QUESTIONS ?

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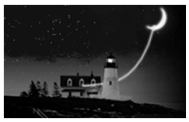
Day 3:

Conducting CBT-I

Session 5 (Treatment)

INSOMNIA

SESSION 5 – TREATMENT

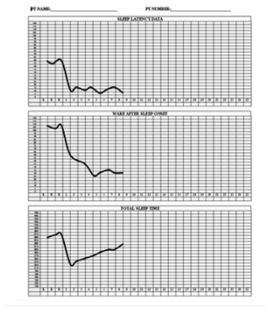


COGNITIVE THERAPY - DECATASTROHIZATION

“WHAT ARE WE GOING TO DO TODAY?”
THE SAME THING AS EVERY DAY … !

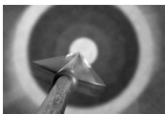
Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains
Continue Upward Titration of TST
Cognitive Therapy for Negative Sleep Beliefs

GRAPH MEAN SLEEP CONTINUITY



Tasks
Summarize & Graph Sleep Diary
Assess Treatment Gains
Continue Upward Titration of TST
Cognitive Therapy for Negative Sleep Beliefs

COGNITIVE THERAPY – TARGETED



TYPES

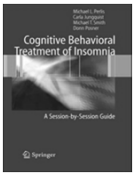
DEBUNKING DYSFUNCTIONAL BELIEFS	**- MORIN**
DECATASTROPHIZATION	**- PERLIS**
COGNITIVE RESTRUCTURING	**- HARVEY**

TARGETING

- **WORRY AND RUMINATION**
- **ATTENTION BIAS**
- **SAFETY BEHAVIORS**
- **DYSFUNCTIONAL BELIEFS**

READER

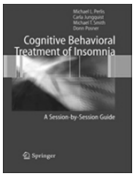
SESSION – 5



Cognitive Therapy for Negative Sleep Beliefs: A countering strategy for probability overestimates

Cognitive restructuring is a core form of therapy for CBT for depression and anxiety and panic disorders. Some years ago we recommended that this form of therapy could be applied to the treatment of sleep-related worry. While there are no efficacy or effectiveness studies on this specific approach as a monotherapy, there are effectiveness data related to its use as part of a comprehensive package. Moreover, its effectiveness in the related disorders and its clear clinical utility in the treatment of insomnia, suggest that this is an important component to include in CBT-I.

SESSION – 5



Cognitive restructuring for insomnia focuses upon catastrophic thinking and the belief that poor sleep is likely to have devastating consequences. While psychoeducation may also address these kinds of issues, another ingredient of cognitive restructuring lies not in disabusing the patient of erroneous beliefs, but rather in having them discover that their estimates are not necessarily factual. When undertaking this exercise with a patient, it needs to be introduced in a considerate way, one that avoids any hint that the therapist is being pedantic, patronizing, or condescending.

SESSION – 5

There are 9-10 steps to the process

1. **Set the stage for the exercise (cognitive restructuring)**
2. **Calculate how long the patient has had insomnia (round back)**
3. **Identify and record 3-10 sleep related worries (pull for the catastrophe)**
4. **Assess probability estimates (round back)**
5. **Determine actual frequencies**
6. **Determine forecasted frequency (certainty x opportunity)**
7. **Identify mismatch between the patient's estimates & actual occurrence rate**
8. **Talk about "why is it that such probabilities seem so real at the time" ?!**
9. **Recommend a countering Mantra ("not likely")**
10. **(Optional) calculate probability based on occurrence**

SESSION – 5

SET THE STAGE

JUST AN EXERCISE
DEGREE OF FIT TO THE PATIENT

SESSION – 5

CALCULATE THE NUMBER OF DAYS WITH INSOMNIA ?

SESSION – 5

SET THE FRAME OF MIND

“CLOSE YOUR EYES AND IMAGINE YOURSELF TRYING TO FALL ASLEEP. IT’S BEEN A WHILE. AND YOU START TO THINK

“IF I DON’T SLEEP TONIGHT _____”

SESSION – 5

ELICIT SLEEP RELATED WORRIES

“IF I DON’T SLEEP TONIGHT _____”

SESSION – 5

PULL FOR ASSOCIATED CATASTROPHIC THOUGHTS

"IF I DON'T SLEEP TONIGHT _____"

SESSION – 5

IDENTIFY AND RECORD CATASTROPHIC THOUGHTS

COMMON WORRIES AND CATASTROPHIC THOUGHTS	
If I don't get good sleep tonight then …	
Worry	Associated Catastrophic Thought

SESSION – 5

COMMON WORRIES AND CATASTROPHIC THOUGHTS	
If I don't get good sleep tonight then …	
Worry	Associated Catastrophic Thought
I'll be irritable and short with my wife	My wife will leave or divorce me
I'll be irritable and short with my kids	My kids will hate me – never speak to me again
I want socialize well	I loose my friends
I'll do poorly at work	I'll get fired
I make a mistake at work	I'll kill some one
I make a mistake at work	I'll get sued
I'll get fired	I will be ruined financially
I'll feel poorly	I'll get sick
I'll get sick	I'll die
I'll loose my mind	I'll go crazy – have a nervous breakdown
I won't fall asleep	I'll be awake the whole night
I'll fall sleep behind the wheel (or space out)	I'll total my car
I'll have an accident	I'll wreck my car and kill myself or someone else
I'll look old and unattractive	People will turn away from me in disgust.

SESSION – 5

ASSESS PROBABILITY ESTIMATES

SESSION – 5

SET THE FRAME OF MIND

"WHEN YOU'RE LYING THERE, AND IT SEEMS THAT YOU HAVE BEEN AWAKE FOREVER, AND YOUR BEYOND ANNOYED, AND YOU START TO WORRY "IF I DON'T SLEEP TONIGHT, TOMORROW I'LL _____.

AT <u>THAT MOMENT</u>, HOW CERTAIN DO YOU FEEL THAT _____ WILL HAPPEN ?

SESSION – 5

ASSESS PROBABILITY ESTIMATES

COGNITIVE RESTRUCTURING

Number of days with Insomnia <u>1500</u>

1 EVENT	2 CERTAINTY WHEN LYING AWAKE AND UNABLE TO SLEEP
Stay awake all night	85%
Wreck the car	80%
Get fired	90%

SESSION – 5

DETERMINE ACTUAL FREQUENCIES

COGNITIVE RESTRUCTURING

Number of days with Insomnia 1500

3 # OF EVENT OCCURRENCES
1
2
0

SESSION – 5

DETERMINE FORECASTED FREQUENCY

COGNITIVE RESTRUCTURING

Number of days with Insomnia 1500

4 # OF EVENT OCCURENCES GIVEN CERTAINTY
1200
1200
1300

SESSION – 5

IDENTIFY MISMATCH BETWEEN ESTIMATES AND ACTUAL OCCURENCES

COGNITIVE RESTRUCTURING

Number of days with Insomnia 1500

3 # OF EVENT OCCURRENCES	4 # OF EVENT OCCURENCES GIVEN CERTAINTY
1	1200
2	1200
0	1300

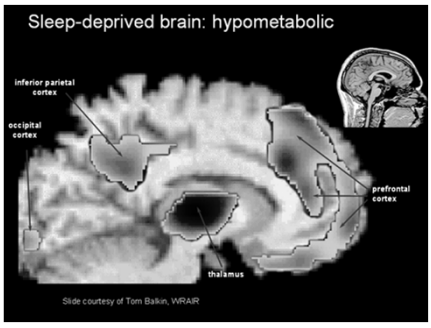
SESSION – 5

TALK ABOUT "WHY IS IT THAT SUCH PROBABILITIES SEEM SO REAL AT THE TIME" ?!

HOW CAN THERE BE SUCH A DISPARITY BETWEEN ONE'S CERTAINTY AT NIGHT AND THE REAL LIFE PROBABILITIES ?!

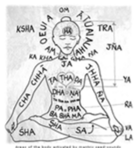
IT'S A BAD THING TO BE AWAKE WHEN REASON SLEEPS

SESSION – 5



SESSION – 5

<u>COUNTERING MANTRA</u>



<u>WHEN I THINK</u>
"IF I DON'T SLEEP TONIGHT – I'LL WRECK THE CAR TOMORROW"

<u>LEARN TO REFLEXIVELY THINK</u>
"NOT LIKELY"

SESSION – 5

There are essentially 8 steps to the process.

1. Setting the stage for Cognitive Restructuring
2. Calculating how long the patient has had their insomnia (in days)
3. Identify and record between 3-10 catastrophic thoughts
4. Assess the Patient's Probability Estimates
5. Determine the actual frequency of occurrence of the anticipated "catastrophes"
6. Mismatch Between the Patient's Estimates & The Probability of Catastrophic Outcome
7. Create a Countering Mantra to the Catastrophic Thoughts

SESSION – 5

COMMON WORRIES AND CATASTROPHIC THOUGHTS

If I don't get good sleep tonight then ....

Worry	Associated Catastrophic Thought

COMMON WORRIES AND CATASTROPHIC THOUGHTS

If I don't get good sleep tonight then ....

Worry	Associated Catastrophic Thought
I'll be irritable and short with my wife	My wife will leave or divorce me
I'll be irritable and short with my kids	My kids will hate me – never speak to me again
I want socialize well	I loose my friends
I'll do poorly at work	I'll get fired
I make a mistake at work	I'll kill some one
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I'll get fired	I will be ruined financially
I'll feel poorly	I'll get sick
I'll get sick	I'll die
I'll loose my mind	I'll go crazy – have a nervous breakdown
I won't fall asleep	I'll be awake the whole night
I'll fall sleep behind the wheel (or space out)	I'll total my car
I'll have an accident	I'll wreck my car and kill myself or someone else
I'll look old and unattractive	People will turn away from me in disgust.

<u>LINK-1</u>

<u>LINK-2</u>

COGNITIVE RESTRUCTURING

Number of days with Insomnia <u>1500</u>

1	2	3	4
EVENT	**CERTAINTY WHEN LYING AWAKE AND UNABLE TO SLEEP**	**# OF EVENT OCCURRENCES**	**# OF EVENT OCCURENCES GIVEN CERTAINTY**
Stay awake all night	85%	1	1200
Wreck the car	80%	2	1200
Get fired	90%	0	1300

SESSION – 5

PRACTICE

SESSION – 5

PRACTICE

There are 9-10 steps to the process

1. Set the stage for the exercise (cognitive restructuring)
2. Calculate how long the patient has had insomnia (round back)
3. Identify and record 3-10 catastrophic thoughts (pull for the catastrophe
4. Assess probability estimates (round back)
5. Determine actual frequencies
6. Determine forecasted frequency (certainty x opportunity)
7. Identify mismatch between the patient's estimates & actual occurrence rate
8. Talk about "why is it that such probabilities seem so real at the time" ?!
9. Recommend a countering Mantra ("not likely")
10. (Optional) calculate probability based on occurrence

SESSION – 5

QUESTIONS & RESISTANCES

I'M DOING BETTER – CAN WE STOP NOW ?

BEST NOT TO.

WILL I HAVE TO DO SRT AND STC FOR EVER ?!

YES AND NO.

BREAK

Michael Perlis PhD
Director, Upenn Behavioral Sleep Medicine Program
mperlis@upenn.edu

SESSION – 5

COGNITIVE RESTRUCTURING

Number of days with Insomnia 1500

1 EVENT	2 CERTAINTY WHEN LYING AWAKE AND UNABLE TO SLEEP	3 # OF EVENT OCCURRENCES	4 # OF EVENT OCCURENCES GIVEN CERTAINTY
Stay awake all night	85%	1	1200
Wreck the car	80%	2	1200
Get fired	90%	0	1300

CALCULATE PROBABILITY BASED ON OCCURRENCE

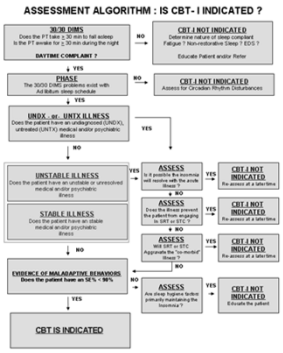
STAY AWAKE ALL NIGHT	**1/1200 = 0.08%**
WRECK MY CAR	**2/1200 = 0.16%**
GET FIRED	**0/1200 = 0.0%**

Day 3:

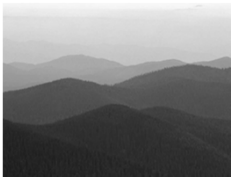
Case Examples

THE COGNITIVE BEHAVIORAL TX OF INSOMNIA

4 CASE EXAMPLES



CASE 1



Case courtesy of S.J.C. RN, CNS
Seoul Korea

Tx was conducted by staff or trainees at this locale.

INITIAL PRESENTATION

- **68 year old Female**
  - **Married/ lives with her husband**
  - **Three daughters are all married**
- **Onset of insomnia: 6 yrs ago**
- **2yrs ago: Dx & Tx GERD→ somewhat improved**
- **Increased fluid intake during night time (3-5cups/night)**
  - **She thought it helpful for GERD**
  - **→ Nocturnal frequency**

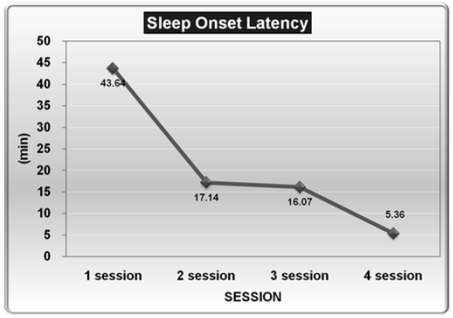
- **TTB** **Variable from 10-11pm**
- **TOB =** **6am**
- **SL =** **43 minutes**
- **WASO =** **55 minutes**
- **TST =** **6.27 (~6 hrs. 15 min)**
- **TIB =** **~8.0 hours**
- **SE =** **78%**

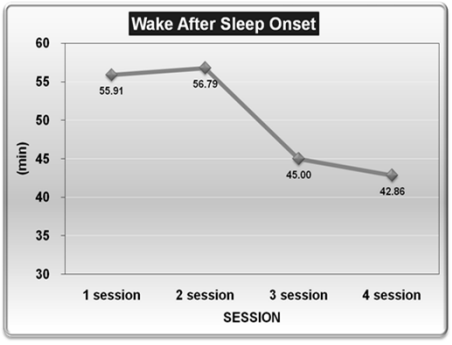
MEDICATION & TX STATUS

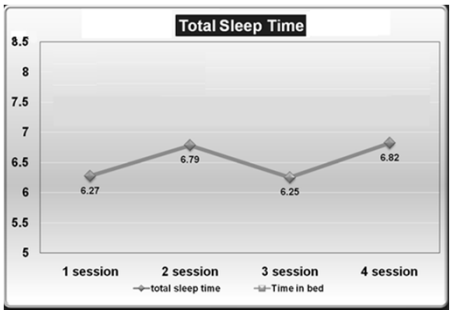
- **Medications for Insomnia**
  - **alprazolam 0.25mg 1~1.5T hrs**
  - **triazolam 1T hrs**
    frequency: 1/week
- **Medication for GERD**
  - **PPI (rabeprazole 10mg qd)**
- **Medication for menopause**
  - **Intermittent hormonal replacement IV form**

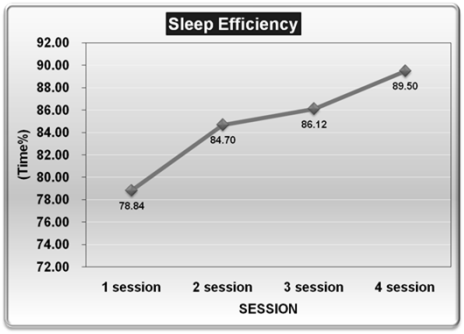
TREATMENT

- **1st session**
  - **Introduction of CBT-I**
  - **Hx, sleep pattern**
- **2nd session**
  - **Education about sleep/wake regulation**
  - **Behavioral/Relaxation Tx**
- **3rd session**
  - **Cognitive Tx**
  - **Medication tapering**
- **4th session**
  - **Review progress & wrap up**


Sleep Onset Latency
50
45
40
35
30
25
20
15
10
5
0
(min)
43.64
17.14
16.07
5.36
1 session
2 session
3 session
4 session
SESSION


Wake After Sleep Onset
60
55
50
45
40
35
30
(min)
55.91
56.79
45.00
42.86
1 session
2 session
3 session
4 session
SESSION

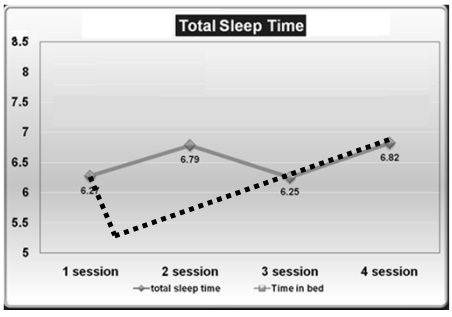

Total Sleep Time
8.5
8
7.5
7
6.5
6
5.5
5
6.27
6.79
6.25
6.82
1 session
2 session
3 session
4 session
total sleep time
Time in bed

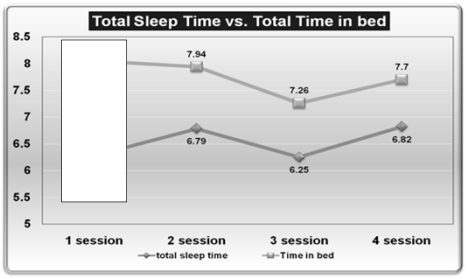


PRE-POST COMPARISON

Pre-Tx		Post-CBT	
SOL	43.8 min	SOL	5.4 min
TST	6.27 hours	TST	6.82 hours
WASO	55.8 min	WASO	42.6 min
NWAK	2.36 numbers	NWAK	2.43
SE	78.8 %	SE	89.5 %

- At 4th session of CBT-I, she discontinued triazolam.
- 3 months after CBT-I, she could also discontinued alprazolam.



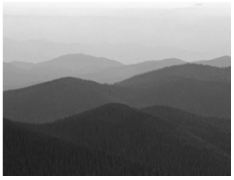


- **SRT IS NOT RIGOROUS (SHOULD HAVE STARTED AT __?**
- **4 VS. 8 SESSIONS OF TREATMENT**

PTTB

Since TST was 375 min. (~ 6 hrs & 15 min) and time out of bed needed to be 6am, then what should The PTTB be ?

CASE 2



Case Courtesy of MCZ, PhD
Tel Aviv, Israel

Tx was conducted by staff or trainees at this locale.

INITIAL PRESENTATION

- **Demographics:**
  - **Age: 42**
  - **Sex: Female**
  - **Marital Status: Married (15 years)**
  - **Children: 3 (ages 5,10, 13)**
  - **Employed full-time/avid karate athlete**
- **Onset of Insomnia:**
  - **2 years ago, thyroid cancer (in remission)**
  - **Exacerbation 2.5 months ago, work-related stress**

- **TTB 12pm**
- **TOB = 730am**
- **SL = 60 minutes**
- **WASO = 32 minutes**
- **TST = 6.0**
- **SE = 60%**

MEDICATION & TREATMENT STATUS

- **Stilnox (Zolpidem; 5mg), 2-3x/week**
- **Eltroxine (thyroid replacement)**
- **Wyethia (homeopathic remedy)**
- **Carcinocin (homeopathic remedy)**

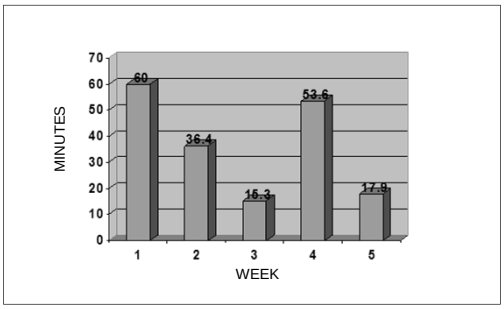
TREATMENT ??

- **Assessment and baseline (1-2 weeks)**
- **Explanation of Spielman & Stimulus Control Concepts**
- **Initiation of SRT (by average TIB) and STC**

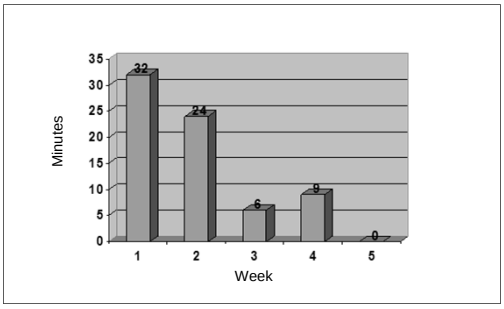
BEST GUESS WAS D/C SLEEP MEDICATION AND RESTRICT SLEEP PERIOD BY 1 HOUR

- **Titration & Cognitive Therapy (decatastrophization)**
- **Titration (Sessions 6 & 7)**
- **Relapse Prevention**

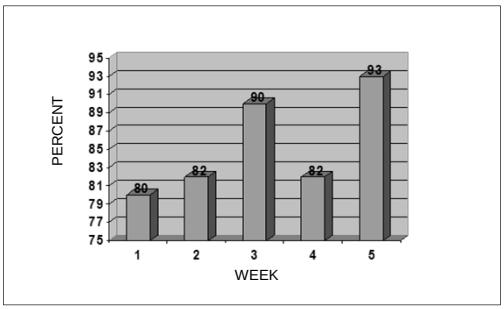
SLEEP ONSET LATENCY



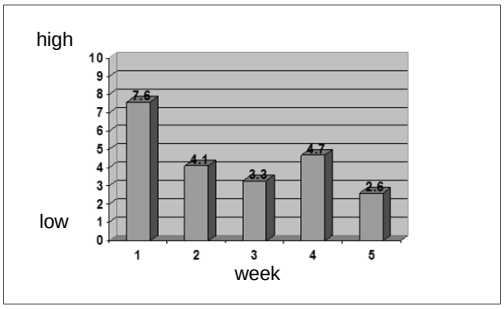
WAKE AFTER SLEEP ONSET



SLEEP EFFICIENCY



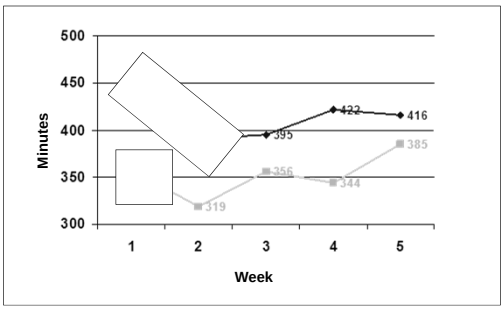
DAYTIME SLEEPINESS (SCALE 1-10)



PRE-POST COMPARISON

Pre-Treatment		Post-Treatment	
• SOL	60.0 min	• SOL	17.9 min
• WASO	32 min	• WASO	0 min
• TST	6.0 hrs	• TST	6.4 hrs
• SE	80%	• SE	93%
• EDS	7.6	• EDS	2.6

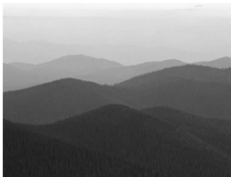
TIME IN BED VS. TOTAL SLEEP TIME



PTTB

Since TST was 360 min. (6 hrs) and time out of bed needed to be 730am, then what should The PTTB be ?

CASE 3



Case Courtesy of SD PhD
UCSD

Tx was conducted by staff or trainees at this locale.

INITIAL PRESENTATION

- **35 year old Hispanic male Navy veteran**
- **Married with a 6 year old son**
- **Difficulty initiating and maintaining sleep**
- **Onset: after doing shift work**
  exacerbated from back injuries
- **Med Dx: Degenerative arthritis of the spine, back injuries treated with surgery (spinal fusion)**
- **Meds: Pregabalin, Tramadol, Fluoxetine, Prilosec, and Zolpidem**
- **TTB ~11pm**
- **TOB = ~6am**
- **SL = 41 minutes**
- **WASO = 57 minutes**
- **TST = 319 (5.31 hrs)**
- **SE = 76%**

- **Precipitating factors**
  - **Shift work in the Navy**
  - **Pain (back injury and subsequent surgeries)**
  - **Living with 5 pet cats who are active at night**
- **Perpetuating factors**
  - **Attempting to sleep before sufficiently tired**
  - **Other healthcare providers advised patient to "try harder" to fall asleep if unable at night**
  - **Attempted naps**
- **Evidence of conditioned hyperarousal**
  - **Reports of feeling "very tired" while watching TV in his living room at night, followed by immediate alertness/feeling awake when patient lies down in bed**

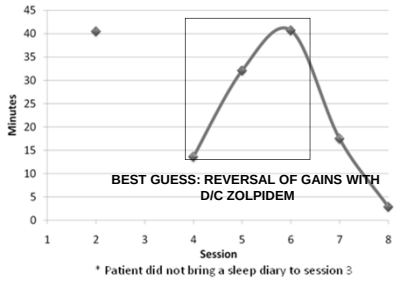
TREATMENT

- **Individual Therapy**
  Therapist 3rd Year Grad Student
- **Assessment and baseline (1-2 weeks)**
- **Explanation of Spielman & Stimulus Control Concepts**
  Initiation of SRT (by average TST) and STC (initiate when aware of being awake or annoyed [not by time elapsed])
- **Titration (15 min based on 80/85/90 rules) & Sleep Hygiene Review**
- **Cat Noise a focus**
- **D/C Zolpidem during Tx**

PTTB

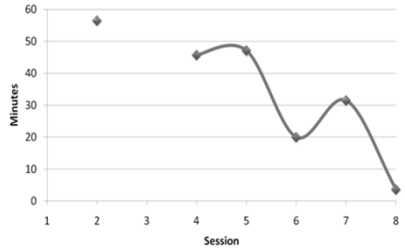
TST was 319 min. (call it 315 min) and time out of bed needed to be 6am, then what was the PTTB ?

SLEEP LATENCY



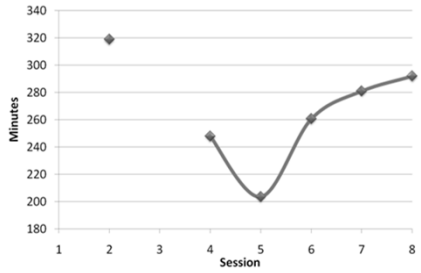
* Patient did not bring a sleep diary to session 3

WASO



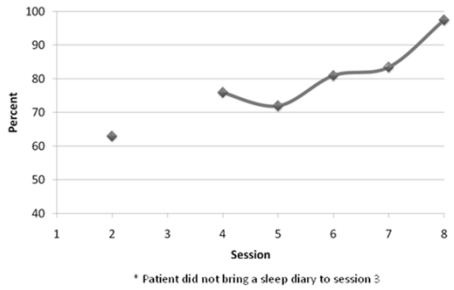
* Patient did not bring a sleep diary to session 3

TST



* Patient did not bring a sleep diary to session 3

SE

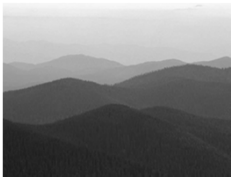


* Patient did not bring a sleep diary to session 3

PRE-POST COMPARISON

	Pre-Tx	Post-Tx
SL	41 Min	3 Min
NOA	2.2	0.6
WASO	57 Min	4 Min
TST	319 Min	292 Min
SE	63%	98%
ISI	27	21
PSQI	19	11

CASE 4



Case Courtesy of
SH PhD D-ABSM
Montefiore Hospital
New York, New York

Tx was conducted by staff or trainees at this locale.

INITIAL PRESENTATION

- **Female - 82 years Old**
- **Windowed**
- **5th Grade Education**
- **Non-English Speaker**
- **Med Dx: Arthritis, Hypothyroidism, Hypertension, moderate OSA (compliant with CPAP).**
- **Meds: Synthroid, Amlodipine, and Lisinopril**
- **Assessment showed mild depression (BDI=14)**

Case was conducted using a phone interpreter

INITIAL PRESENTATION (CONT'D)

- **TTB = 8pm**
- **TOB = 8am**
- **SL = 240 minutes**
- **WASO = 60 minutes**
- **TST = 390 (6.5 hrs)**
- **SE = 54%**

Patient very lonely, spent most of day and evening in bed watching TV

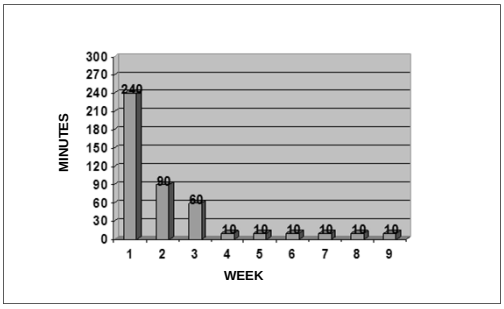
PTTB

Since TST was 390 min. (6.5 hrs.) and time out of bed needed to be 8am, what should have the PTTB been ?

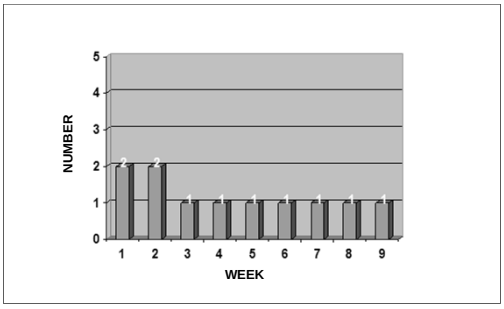
TREATMENT PLAN

- **Two week prospective assessment**
- **SRT + SCT (Titration rule 80% / 85%)**
- **Patient resistant to Phase Delay of TTB switched to Sleep Compression (delay over 2 weeks [not sure how this was done])**
- **Made a plan for Time Awake (photo albums and scrap book)**

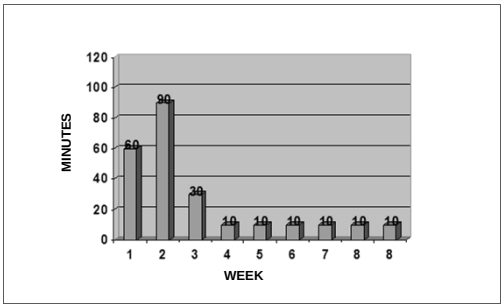
SLEEP ONSET LATENCY



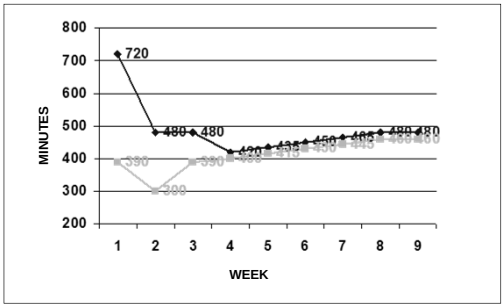
NUMBER OF AWAKENINGS



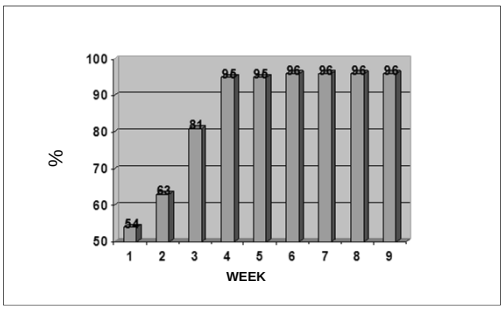
WAKE AFTER SLEEP ONSET



TIME IN BED VS. TOTAL SLEEP TIME



SLEEP EFFICIENCY



PRE-POST COMPARISON

Pre-Treatment		Post-Treatment	
• SOL	240 min	• SOL	10 min
• WASO	60 min	• WASO	10 min
• TST	6.5 hrs	• TST	7.6 hrs
• SE	58%	• SE	96%
• EDS	?	• EDS	?

SO ?

CBT-I IS AWESOME !!

BREAK

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QnA

SO WITHOUT FURTHER ADO

“THIS IS THE END… ”

JIM MORRISON CIRCA 1967

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